

SARDIS

PUBLICATIONS OF THE AMERICAN SOCIETY FOR THE EXCAVATION OF SARDIS

VOLUME XIII

JEWELRY AND GOLD WORK

PART I

1910—1914

BY

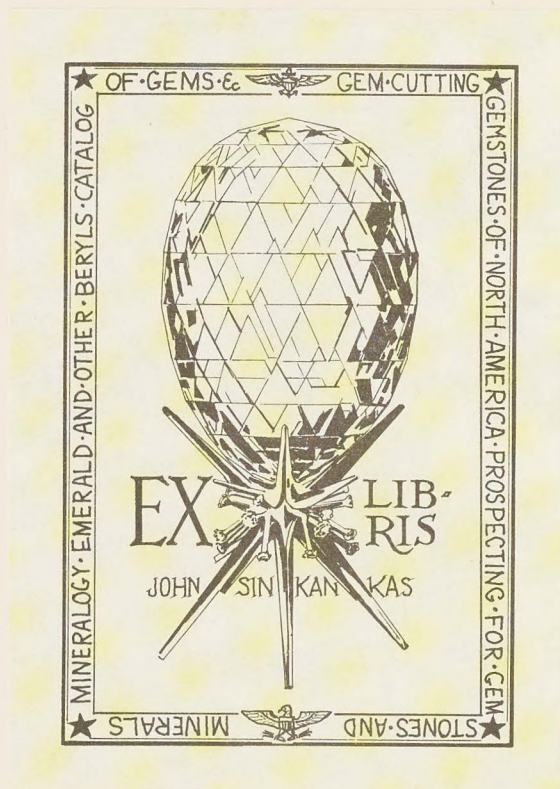
C. DENSMORE CURTIS

SINDACATO ITALIANO ARTI GRAFICHE

VIA FONTANELLA DI BORGHESE, 28

ROMA — 1925.

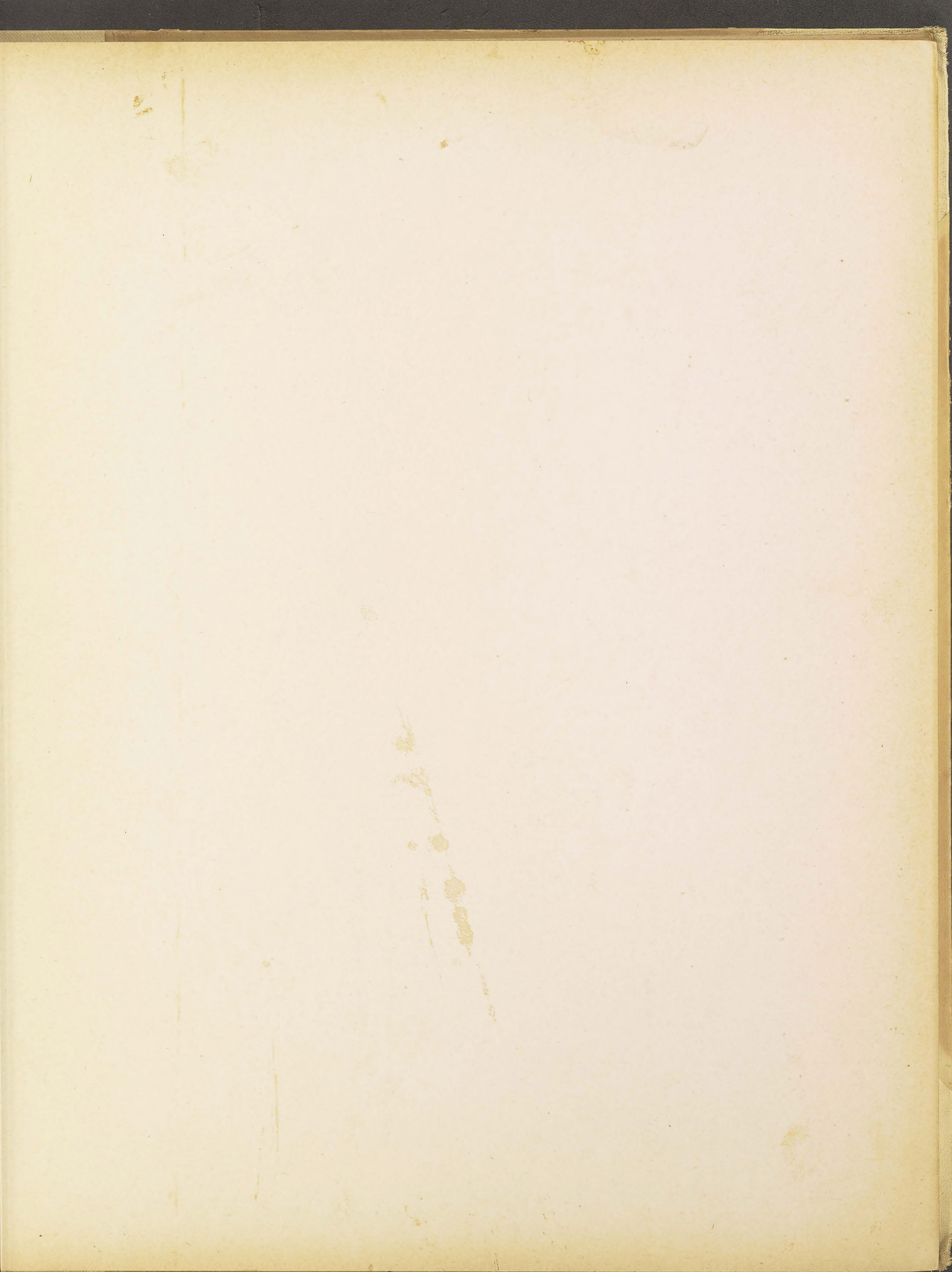
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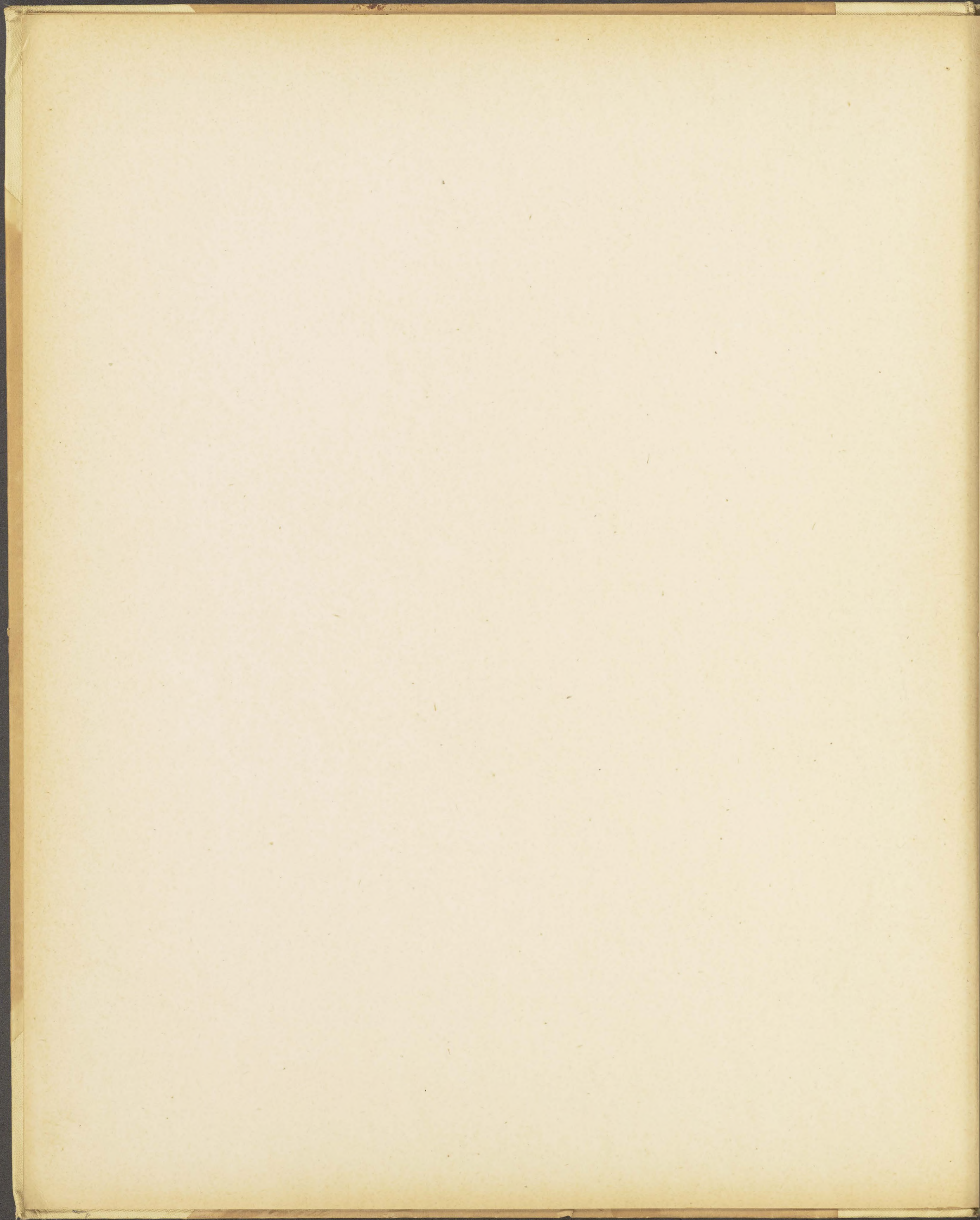


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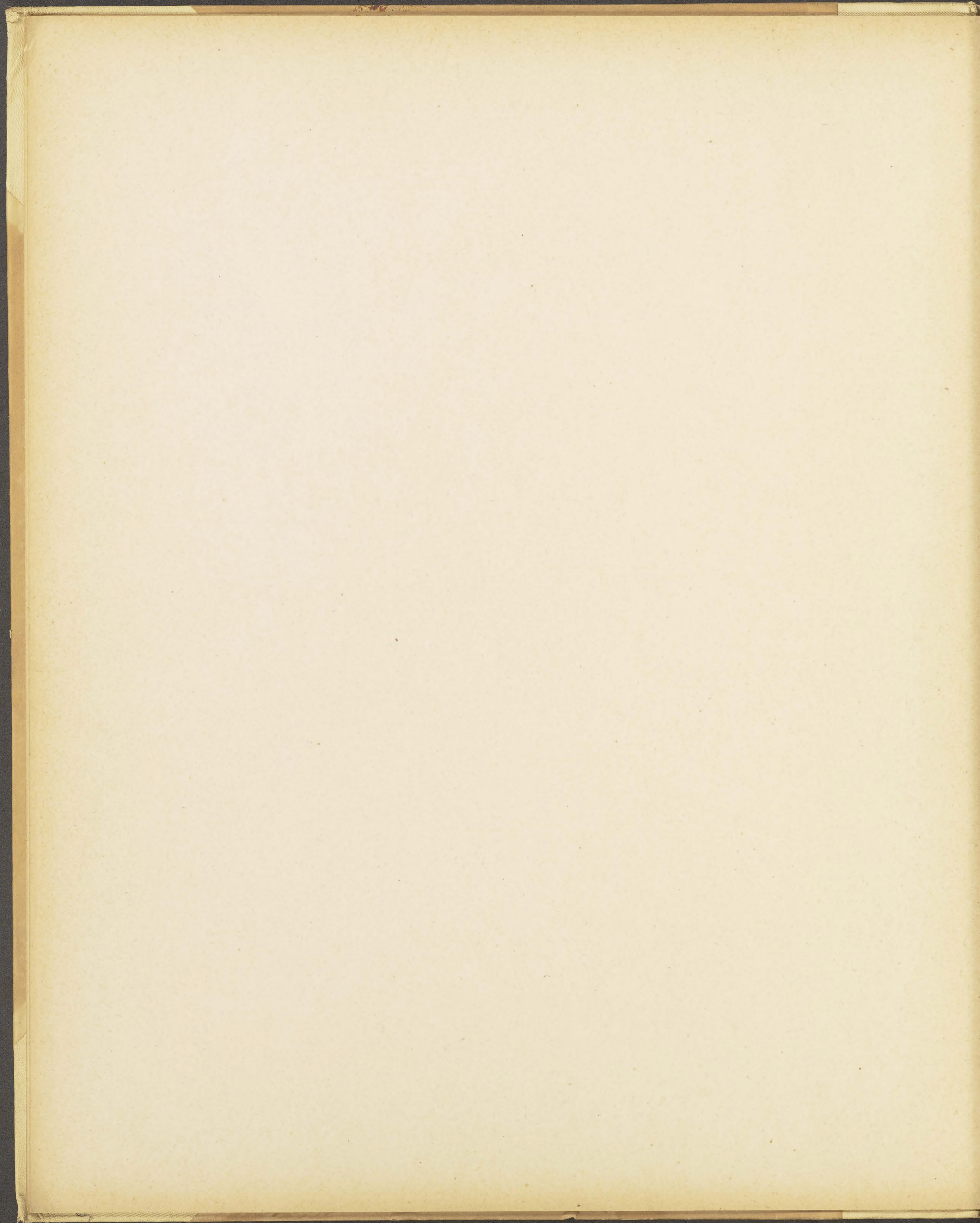
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TIGHANSTRUAN
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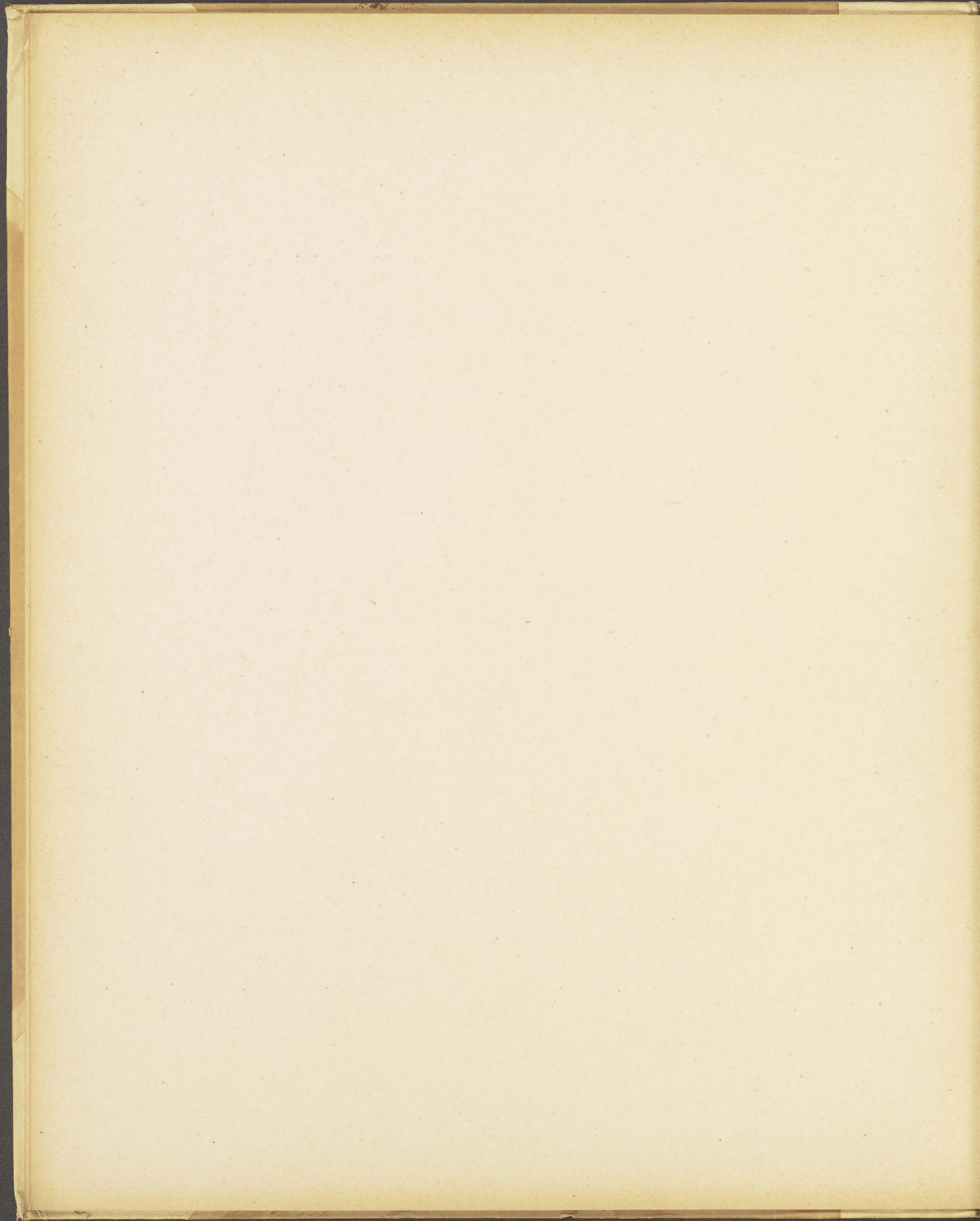
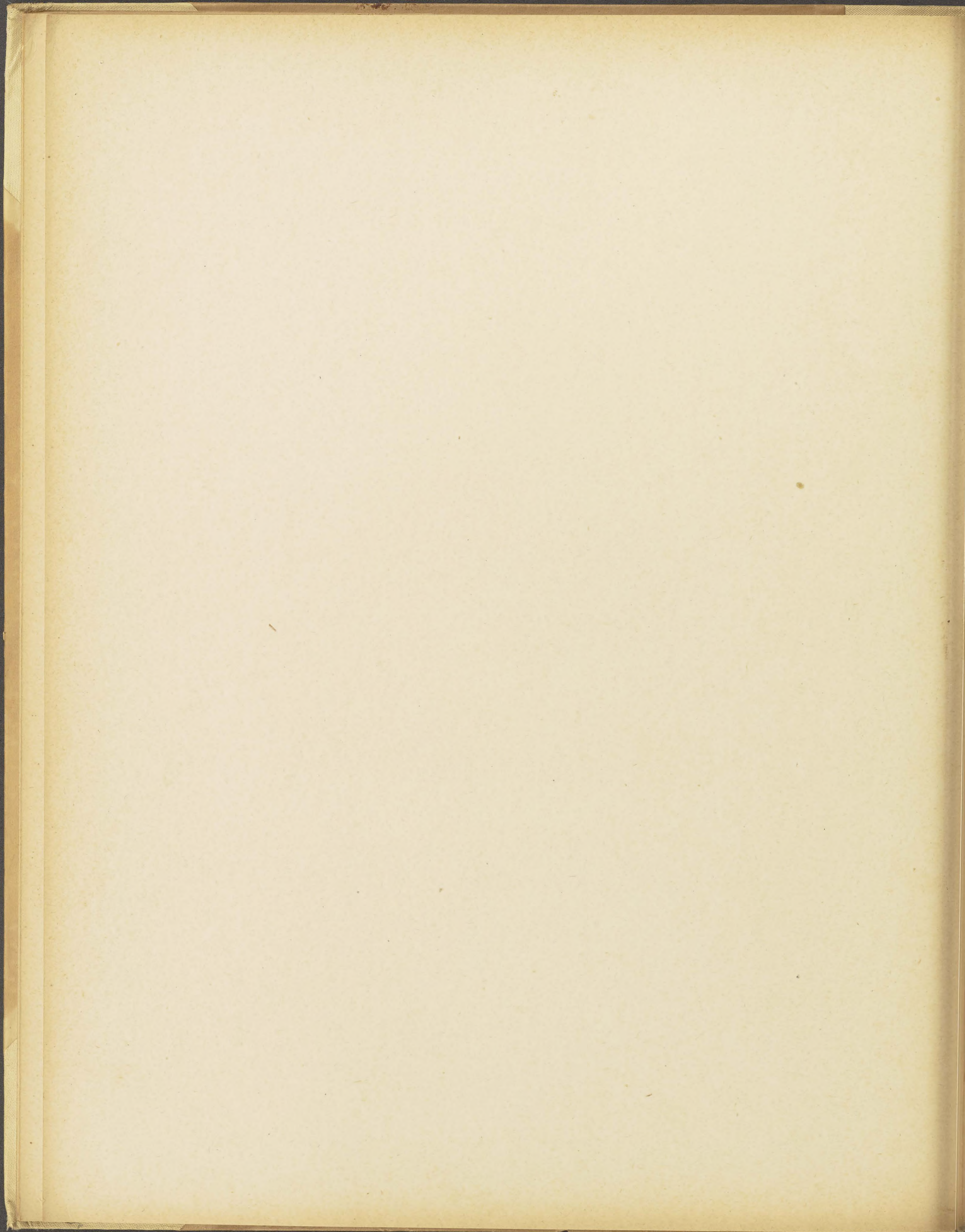


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JEWELRY AND GOLD WORK.

INTRODUCTION.

The present volume ¹ contains a description, with a complete set of photographs, of the gold objects found at Sardis during the excavations of 1910-1914, together with a few of the silver specimens, especially seal mountings, which were taken to Constantinople with the gold at the outbreak of the war. The photographs are not as good in all instances as might be wished, but they are the best that could be procured in Constantinople when I studied the collection in 1923, and it has seemed best to present the material to the public without further delay. As a result of the war also, it is not possible to make the catalogue as complete as might be desired. The minor objects from the tombs were for the most part left behind at Sardis, and were destroyed when the camp was plundered by the natives. They are therefore not available for comparative study and for assistance in dating. At the outbreak of the war the gold specimens were placed in charge of the inspector Aziz Bey who carried them to Smyrna and remained in his room in the hotel for three days in order to ensure their safety. He then carried them by the first steamer to Constantinople where they were placed in the safety deposit vault of the museum, and there they have remained ever since. During the war it was rumored frequently that they had been stolen, or transferred to Angora, or melted down for the gold, but when in 1923 the director of the museum, his excellency Halil Bey, courteously placed at my disposal a private room at the museum, and the box containing the

¹ Mr. Curtis had completed the manuscript and arranged the figures for the plates before his death. All but ten pages of the text were typewritten, and these last were available in a clearly written copy. He would presumably have altered some phrases in a final revision as was his custom, but the editor has not felt at liberty to revise. He has made a few obvious corrections, usually following marginal annotations, and has added an index which he knew was projected.

T. F.

specimens was brought from the vaults and opened, the seals were found intact, and the objects themselves were there exactly as they had been labelled and packed by the excavating party. At the time of my visit the director, Halil Bey, was just recovering from a severe illness, but he nevertheless gave me every facility for studying the material, and my best thanks are due to him and to his inspector Aziz Bey, who assisted me daily in the work, and also to the other assistants in the museum, Macredi Bey, Djany Bey and Nikolaki Effendi.

So much time has elapsed since the excavations took place that it seems best also to present the catalogue as I made it in Constantinople without waiting for an opportunity to make a complete study of the comparative material. Such a procedure would inevitably delay the publication a long time. It is not even possible with our present knowledge of the material to be very dogmatic concerning the dating of the specimens. They were found in the most unexpected places (*Sardis I*, p. 78) in tombs which had for the most part been plundered in antiquity and re-used. The majority of the pieces are obviously early, of the 7th and 6th centuries B. C. A few appear to be even earlier, and a few much later, and these will be mentioned in the catalogue as they occur.

Without further excavations and material also it would be premature to discuss at length the various outside influences which brought in certain typical designs from farther east. The various motives are described in the catalogue and speak for themselves. The collection as a whole is of unique interest, as it represents the best work of an important people who were famed in antiquity for their love of jewelry, and whose kingdom was situated near the western end of the famous «Royal Road» so that Sardis was a center for influences coming from both east and west. When further excavations make more material available a most interesting chapter can be written concerning these motives, and one can then determine which came from outside, which were of local origin, and which of them were finally passed on to the west.

In the notes in smaller type in the catalogue the first number is that of the inventory, and is in almost all cases on a tag attached to the specimens in the museum. The next number with the letter *T* refers to the tomb. On the museum labels are also a series of numbers with the letter *J*. These correspond, in nearly all cases, to the numbers in the very excellent catalogue made by Mr. Harold W. Bell, one of the members of the excavating party. His catalogue is most accurately and carefully made and has been of the greatest assistance in the preparation of the present volume. A copy of it is on file in the Metropolitan Museum of Fine Arts in New York.

C. D. C.

May, 1925.

PLAQUES, ROSETTES AND GOLD STRIPS.

1. Pl. I, Fig. 1 *a-f*. SIX RECTANGULAR GOLD PLAQUES with open work decoration in stamped relief. Each has a square outer frame with a raised line as border both inside and out, and ornamented with 20 eight-petalled rosettes in low relief. Above are five triangular projections with stepped sides resembling battlements (or flames). Within the frame is an open work (*à jour*) decoration. Above is a winged sun disk with two legs which rest on the caps of the sphinxes below. Between the legs is a fan shaped tail with the feathers indicated in three horizontal rows. Below the sun disk are two winged, bearded, male sphinxes, seated facing, on their haunches, each with the fore paw farthest from the beholder raised and touching that of the other. Their faces are in profile, but their eyes are represented as if in full face. They wear tall round caps with flat tops, from behind which their hair falls to the back in a large mass, terminating in a still larger rounded portion. The beards are pointed and are made up of clusters of rounded lumps which give them the appearance of the typical Assyrian curls. Only the wing nearest the spectator is represented. It is broad and raised, with the tip bent slightly forward toward the head. The tails are represented in relief as if curled up on the flanks. The edge of each plaque has several perforations, and attached to the back of each are about 20 extremely minute gold rings. Both the holes and the rings were evidently once used for attaching the plaques to cloth or some other material.

Eastern (Assyrian) influence is very marked. The date is apparently early (7th-6th century). They were found in the excavations of 1913 (*Sardis* I, p. 143) in a tomb of the first necropolis situated on the top of a ridge extending eastward from the first tomb hill and on its north face. With them were the plaques No. 2; the rosettes No. 3; two gold buttons No. 6; and the gold chain No. 51. In the catalogue of Bell they are said to have been found in the «back bed and dromos».

No. 4652. T(omb) 836. BELL, 135. Total wt. 7.3 gr.; width 3.05 cm.; ht. about 3.6 cm., but they vary somewhat. See *Sardis* I, p. 143 and Ill., 158.

2. Pl. I, Fig. 2. NINE SMALL GOLD PLAQUES with open work (*à jour*) decoration in stamped relief. They are smaller than those described under No. 1. Each has a standing, beardless, human headed (female?), winged sphinx, five facing to the right and four to the left. The tail is erect with the tip bent over forward. The ear is prominent and completely indicated. The hair is marked by vertical striations above. It falls in a mass behind the head and is bound by several horizontal strands behind the ear, below which point it terminates in a large dotted cluster. The muscles of the body are boldly modelled. In curious contrast to the other

three legs, the fore leg nearest the spectator is marked by horizontal striations, suggested evidently by the similar horizontal striations of the wing above. The framework consists merely of two narrow strips, one on which the sphinxes walk, and on which their feet show in relief, and one above connecting the tips of their tails with their wings and their wings with the tops of their heads. All of the plaques have from eight to ten minute rings of gold on the back, and some of them have one or two perforations for attaching.

No. 4653. T. 836. BELL 136. Total wt. 3.1 gr.; ht. of each 1.7 cm. See *Sardis I*, p. 143 and Ill., 158. With them were found Nos. 1, 3, 6 and 51. Bell gives the same provenience as for No. 1, « back bed and dromos ».

3. Pl. I, Fig. 3. FORTY-THREE SMALL GOLD ROSETTES of eight petals each. In the center of each is a round boss. The petals have a depressed center and a raised edge. On the back of each are five small loops for attaching, one in the center and one at the end of four petals alternating with one without a loop. With the rosettes in the museum are two fragments of gold foil.

No. 4654. T. 836. BELL 137. Total wt. 3.93 gr.; average wt. .0941; diam. 7.5 to 8 mm. From the same tomb came Nos. 1, 2, 4, 6 and 51.

4. Pl. I, Fig. 4. SEVEN SIMILAR BUT STILL SMALLER ROSETTES.

No. 4655. T. 836 (835 on museum label). BELL 138. Combined wt. .24; diam. 5 mm. From the same tomb came Nos. 1, 2, 3, 6 and 51.

5. Pl. I, Fig. 5. TWO GOLD ROSETTES from another tomb but resembling closely those described above under No. 3, the only difference being that each alternate petal is perforated near the end for attaching. On the back of each of the unperforated petals is a tiny loop of wire. For such diminutive objects the amount of attention paid to the means for attaching them seems excessive.

No. 4531. T. 24. BELL 24 f. Diam. 8 mm. Found with beads No. 41 and engraved gem No. 107.

6. Pl. I, Figs. 6-a, 6-b. TWO SMALL CIRCULAR GOLD BUTTONS with a raised rim of beaded wire. On the center of the back of each is a small ring of wire.

No. 4601. T. 836-a. BELL 139. Wt. .42 gr.; diam. 1.25 cm. b, BELL 140. Wt. 1.65 gr.; diam. 8 mm. From the « back bed » of the same tomb as Nos. 1-4 and chain No. 51.

7. Pl. I, Fig. 7. GOLD BUTTON, consisting of a flat disk ornamented with stamped decoration in low relief. In the center is a round female face, surrounded by a row of raised dots. Around the rim is a border of twisted wire. On the back are attached two loops formed of narrow strips of gold bent into circular form.

The female face has but little modelling. The eyes are over-large. The mouth is slightly open. The hair is indicated by diagonal raised lines. The button may have formed part of an ear ring or of a pendant on a chain.

No. 5138. T. 805. Wt. .5 gr.; diam. 1.5 cm. From the same tomb came pendant No. 40, chain No. 43 and ear rings No. 75.

8. Pl. I, Fig. 8. SMALL ORNAMENT, a male figure with five wings, cut from a sheet of gold. The representation is of the Assyrian god Ashur, facing left, with long beard, and wearing a high cap with square top, ornamented with vertical ribs. The hair appears from behind the cap in a rounded mass. The body and upper part of the legs rise from a simplification of the winged sun disk. Here is represented merely a lower crescent of the sun, from which and from the body of the god radiate five wings, two broader above with upturned ends, one to the right and one to the left; two narrower below of similar form; and a fifth pointing downward from below the sun disk and with its tip curved around to the right. The left arm of the god is represented as bent with the elbow against his side and the hand stretched forward to rest on the upper wing to the left. On the back of the ornament are seven very small rings for attaching, one on the back of the head, one back of the tip of each wing, and one in the center.

The form is apparently unique and would seem to be a local adaptation of the well-known Assyrian Ashur represented as rising from a winged sun. In this case the fifth wing has been substituted for the usual tail below the sun disk. The period seems about the same as that of the plaques from Tomb 836, No. 1 and 2 above.

No. 4650. T. 27-A. BELL 154. Wt. .4 gr.; ht. 2.2 cm.; greatest width 1.85 cm. From the same tomb came pendant No. 40, chain No. 43 and ear rings No. 75.

9. Pl. I, Fig. 9. SMALL HOLLOW GOLD CYLINDER with decoration in relief. Around each end is a beaded ring. The central portion is modelled in relief as if formed of two interlacing strands of cord of five divisions each, which are wound about the cylinder.

No. 4646. T. 27-A. BELL 153. Wt. 1.4 gr.; length 1.9 cm.; diam. of end 6 mm. It was found in the same tomb as No. 8. Another similar cylinder came from T. J (1) according to the catalogue of BELL, but it is apparently not in Constantinople.

10. Pl. I, Fig. 10. TWO GOLD PLAQUES of «kite-shaped» form (with two acute and two obtuse angles), with stamped decoration in very low relief. They are quite thick and heavy. Around the edge runs a border consisting of a raised line near the edge, then a row of very small raised dots, then another line and then a row of larger dots. In the center is a complicated design of double palmettes and volutes,

made partly of raised lines, and partly of lines of raised dots. They were apparently cut from a larger sheet of metal and were intended to be surrounded by a series of holes near the edge for attaching. In cutting them out, however, only a few of these holes were left intact and on one side only. The others were cut into and now show merely as indentations along the margin.

No. 4651. T. S. 4. BELL 148-9. Wt. of one (the one with a piece broken out) 1.13 gr.; of the other 1.1 gr.; ht. 5.1 cm.; width 2.6 cm.

11. Pl. 1, Fig. 11. TWO GOLD PLAQUES of similar shape and decoration, but from another tomb. These plaques were not trimmed so closely and the holes for attaching are intact for the entire circumference.

No. 4608. T. 368. BELL 80, 81. Wt. of one .76 gr.; of the other .7 gr.; ht. 4.5 cm.; width 2.5 cm. In the same tomb were found beads No. 30 and agate bead No. 53.

12. Pl. 2, Fig. 3. FRAGMENTS OF THREE ORNAMENTS cut from gold foil, with decoration in stamped relief. Each has a circular section in the center of which is a rosette of twelve petals. From the rosette projects a floral ornament with two spreading leaves between which is a fan-shaped central section. Two are nearly intact; of the other only the circular portion remains. All have perforations for attaching, at irregular intervals near the edge.

No inventory number given. T. 813. BELL 126 (probably). Combined wt. 1.3 gr.; ht. 2.85 cm. With them was found seal No. 104.

13. Pl. 2, Fig. 5. BROAD STRIP OF GOLD, of greater thickness than usual, perforated at each end. Without decoration.

No. 4553. T. 18. BELL 15. Wt. 1.8 gr.; length 8.4 cm.; width 1.7 cm. Found lying on the forehead of a skull in a tomb which also contained chain No. 42, pendant No. 50, ear-rings Nos. 60 and 82, and seals Nos. 121 and 123.

14. Pl. 2, Fig. 1. LONG AND NARROW STRIP of gold foil, pierced at each end.

No. 4593. T. 311. BELL 43. Wt. .8 gr.; length 19.7 cm.; width 1 cm.

15. Pl. 2, Fig. 6 (a few pieces were not photographed). SIXTEEN FRAGMENTS of a diadem or wreath, consisting of narrow strips of gold foil without decoration. Some of them are pointed at one end and pierced at the other.

No. 4602. T. 343. BELL 59-69. Combined wt. 1.25 gr.; length from 3 to 14 cm.

16. (Not photographed). LONG NARROW STRIP of gold foil without decoration.

No. 4594. T. 354. BELL 76. Wt. .3 gr.; length 12.5 cm.; width 6 mm.

17. (Not photographed). SIX SMALL FRAGMENTS of gold wreath, crumpled.

No. 4604. T. 369-c; BELL 84-a. Combined wt. .25 gr. From the same tomb came ear-ring No. 73, and several glass and bronze beads which are not in Constantinople.

18. (Not photographed). THREE CRUMPLED FRAGMENTS of gold foil, once probably forming part of a wreath.

No. 4606. T. 329. BELL 49. Wt. .3 gr.

19. Pl. 2, Fig. 4. SEVEN FRAGMENTS of gold foil, without ornament. The longest is 5.1 cm. in length. With them were found the following gold fragments (also shown in Fig. 4): one beaded ring with fragment of a cap, probably part of a mounting for a pendant or seal (Bell 90); one fragment of gold cap covered with clusters of granulations (Bell 91); three small spherical beads 4 mm. in diameter (Bell 92).

No. 4595. T. 371. BELL 88, 89. Combined weight with the additional fragments (BELL 90-92) 1.7 gr. In the same tomb were found seals Nos. 116 and 117, and also several beads and a silver ring which are not in Constantinople (BELL 92-b-e).

20. Pl. 2, Fig. 2. THREE GOLD STRIPS with traces of a decoration of circles in stamped relief. They probably fit together as a continuous strip.

No. 4648. T. 812. BELL 124. Combined wt. .45 gr.; length of longest 7 cm. With them was found a bronze bracelet with overlapping ends which is not in Constantinople (BELL 123), and silver ear-ring No. 83.

CHAINS, BEADS AND PENDANTS.

21. Pl. 2, Fig. 13. SHORT CHAIN formed of 25 smooth gold beads of biconical (barrel) shape, with a wire ring at each end.

No. 5146. T. 1104. BELL 184. Wt. 6 gr.; length of each bead 8 mm.; diam. of ends 3 mm.

22. Pl. 2, Fig. 9. SHORT CHAIN formed of 30 beads of different materials and sizes. The length is 21 cm. The various elements are as follows:

14 gold beads of biconical shape, similar to those in No. 21, but 1.05 in length. Similar ring at each end.

1 paste ring 9.5 mm. long, of similar shape but without the end rings.

9 very small, spherical beads of gold, 4 mm. in diam.

4 nearly cylindrical banded onyx (?) beads, swelling slightly in the center. Length of each 7 mm.; diam. 3 mm.

2 small cylindrical gold beads surrounded in the center and at the ends by rows of small globules. On each side of the central row are two rows of fine granulations. In spite of the minute size they are very carefully and skillfully made. Length of each 2 mm.; diam. 2 mm. Diam. central cylinder about 1 mm.

In the museum under No. 5150 are three other beads from the same tomb, two banded of onyx (?), one 9 mm. long and 3 mm. in diam. cylindrical, and one similar but swelling slightly in the center, 1.1 cm. long and 3.5 mm. in diam. The third is of paste, biconical, 9 mm. long. These were not photographed.

No. 5147. T. 921. BELL 167. In the same tomb were found the ear-rings Nos. 64 and 65.

23. Pl. 2, Fig. 11. GOLD CHAIN formed of two end pieces and fifty-eight beads. The beads are long and narrow (to be placed vertically side by side) 1.4 cm. in height, and are pierced in two places to be strung on a double cord. They are flat behind and rounded in front, with a decoration of alternating smooth and ribbed sections. Above is a spherical portion with vertical ribs resembling a bud. At the base is a smooth pointed section terminating in a small globule. The two end pieces (each 2 cm. in length) have the shape of an elongated heart, and terminate at the smaller end in a beaded ring resting on a smooth sphere. The heart-shaped portion is flat and is bordered by a row of granulations between two gold wires. At the smaller end these wires coil outward to form a double spiral with a globule in the center. At the larger end they coil inward to form two larger spirals, each of which also has a globule in the center. In the center of the ornament is a decoration formed of several loops of applied wire. On the back of each endpiece are two diverging, attached, hollow tubes, through which passed the two cords on which the beads were strung.

No. 5151. T. 1100. BELL 179. Total wt. 12.8 gr. Total length 23.5 cm.; length of end pieces 2 cm.; ht. separate beads 1.4 cm.; width 3 mm. From the same tomb came the chain listed below, No. 24.

24. Pl. 2, Fig. 8. SMALL GOLD CHAIN formed of 23 beads, as follows:

19 smooth, biconical (barrel shaped) beads, 8 mm. long, with a ring at each end.

4 beads of aryballos form, with a smooth spherical body 7.5 mm. in diam.

The neck is perforated in two directions for stringing and there is an opening above.

No. 5152. T. 1100. BELL 180. Wt. 4.7 gr. In the same tomb was found No. 23 above.

25. Pl. 3, Fig. 1; Pl. 5, Fig. 2 (two photographs of the same object). CHAIN made up of 150 gold beads of different dimensions, 8 beads of blue glass and one cylin-

der of carnelian. As the chain is made up at present every other bead has a tiny pendant, shaped like a bulla, 4 mm. in diameter, formed of two plain, circular, convex disks soldered together, and hanging by a very minute chain formed of three links, one attached to the bead, one to the bulla and one in between. 65 of these pendants remain; 12 have been lost. The beads are as follows:

39 smooth, spherical beads of gold 4 mm. in diameter, with the first link of the pendant chain attached. 33 still have the pendants remaining.

38 spherical gold beads 3.5 mm. in diameter. On each side surrounding the perforation is a small ring. Between the rings are six rows of granulations, very small on the sides and larger in the central rows. To these also were attached similar pendants of which six have been lost.

Alternating with the beads of one or the other of the above types with pendants, is one of the following elements:

34 cylindrical gold beads 2 mm. in diameter and 2 mm. long, each surrounded by three rows of very small granulations of uniform size.

30 cylindrical gold beads 2.5 mm. long, each with five rows of granulations; one larger in the center with two rows of finer granulations on either side. For an end view of similar beads see Pl. 3, Fig. 14-d.

9 very small, smooth, spherical gold beads.

8 very small beads of blue glass paste, 2 mm. in diameter.

1 cylindrical bead of carnelian 5.5 mm. long.

A short account of the discovery of the chain is given in *Sardis I*, p. 144. It was found in 1913 in a tomb below the summit of the first Necropolis hill. Two large terra cotta sarcophagi were found, both sealed and intact. In one were the bones of an old man. In the other those of a maiden of about 17. On her neck was the chain described above. Above the head were gold fillets for binding the hair (apparently not in Constantinople). Other jewelry was found in the place where it was once worn, as beads Nos. 26 and 27, and the ear rings No. 70. On one of the fingers was ring No. 92, all of gold, with a lion in intaglio on the bezel. The chain is one of the most beautiful of those that have come down from antiquity. It must be seen to be fully appreciated as the photographs give but a faint idea of the gleam of the gold and of the wonderful reflected lights from the innumerable granulations.

No. 4588. T. 381. BELL 95. Total wt. about 19.93 gr.; length 38.8 cm.

26. Pl. 3, Fig. 14-a-f. TWENTY-FOUR SMALL GOLD BEADS and pendants of different forms (5 were not photographed), found probably in the same burial with chain No. 25. They are not mentioned in the catalogue of Bell. The more important are as follows:

(a) Gold caps of three small pendants, each of conical form with at the base a row of triangular projections which are bent inward and once held in place some inset object of glass paste of which only a few traces remain. (Cf. Nos. 35-37 for

larger pendants of similar form and decoration). Each is surrounded by three rows of granulated triangles, one pointing down from the top, one pointing up from the base of the cone, and one other row covering the triangular projections below.

(b) Fragment of the gold mounting of a seal with a ring for suspension similar to that on pendant No. 36, but smaller, and two side portions in the form of ducks' bills which once clasped the sides of the seal. See No. 109 for a better preserved specimen.

(c) Fragment of an ornament of gold foil with decoration in stamped relief. For better preserved specimens see No. 12 above.

(d) Five cylindrical gold beads, slightly larger than those described under No. 25 d. They are 5 mm. in diameter and are surrounded by three rows of granulations, one of larger globules in the center, with a row of smaller granulations on either side.

(e) Two smooth, spherical gold beads 4 mm. in diameter, from each of which there hangs by a chain of three tiny links a small pendant, 5 mm. in height, of acorn shape, entirely covered with granulations in horizontal rows. There is one granulation at the bottom, then a row of five, and then three other rows.

(f) Several smooth gold beads and other gold fragments (5 not photographed).

No. 4597. T. 381; K. 5. Not mentioned by BELL. Cf. *Sardis I*, p. 144. In the same tomb were found chain No. 25, beads No. 27, ear-rings No. 70 and ring No. 92.

27. Pl. 2, Fig. 7. FORTY-FOUR SMALL GOLD BEADS of biconical (barrel-shaped) form, each 6 mm. long, with a ring at each end. For similar specimens see No. 24 above. In this case however each bead has a small hole on one side, and as they were found near the ankles of the body (*Sardis I*, p. 144) the theory has been advanced that they were once sewn to the dress. This is possible, but as they have the form of beads which are clearly from chains, they may also have formed part of a chain which was placed near the feet for some unknown reason, and have had attached pendants of some perishable material of which no trace remains.

No. 4587. T. 381. BELL, under No. 96-a, mentions 49 beads and a star-shaped ornament. The extra five beads and the ornament are kept separately in the museum under No. 4596, but were not photographed. The five beads are exactly like those of No. 27. The star-shaped ornament seems to be a fragment of an eight-petalled rosette with a perforation at the end of every other petal. Diam. 7 mm. With them is a fragment of gold foil. For the other objects from the same burial see No. 25 above.

28. Pl. 2, Fig. 10. SHORT CHAIN formed of seventeen small, smooth, spherical gold beads each 4 mm. in diameter, and one triangular bead of carnelian 5 mm. long.

No. 4564. T. 220. Not mentioned by BELL. Wt. including carnelian bead 1.3 gr. From the same tomb came ring No. 96 and seal No. 112.

29. Pl. 2, Fig. 12. FIVE SMALL GOLD BEADS, as follows: 1 spherical and ribbed; 4 in the shape of a small aryballos with spherical body. The neck has four holes for stringing. Diam. 6 mm. (See No. 44 for similar beads).

No. 4566. T. 22. BELL 7-a, b. Wt. of the five, 1.5 gr. In the same tomb were found beads No. 56 and seal No. 119.

30. (Not photographed). SIX GOLD PENDANT BEADS AS FOLLOWS:

3 beads in the shape of a small aryballos with spherical body 7.5 mm. in diameter, and with four holes in the neck.

2 similar beads 6 mm. in diam. and 7.5 mm. in height, with higher neck and two very small perforations.

1 smaller bead, spherical below, 5 mm. in diam. with a six-petalled rosette in relief on the base. The neck is ribbed and is 3 mm. in diam. Total ht. 7 mm.

No. 4610. T. 368. BELL 82-a-c. From the same tomb came plaques No. 11 and bead No. 53.

31. Pl. 3, Fig. 13. CHAIN made up of 36 gold beads of different forms and 3 beads of carnelian, as follows:

14 gold beads of biconical form, 1 cm. long, with a ring at each end, similar to those described above, Nos. 24, 27.

15 gold beads, each having a very minute, vertically ribbed cylinder (7.5 mm. long and 1.5 mm. in diam.) through which passed the string of the chain, and which has attached to the center of one side a gold floral ornament resembling a fruit or berry, formed of a globular portion 6 mm. in diam. with a rosette of seven petals in relief on the underside. (Cf. *Ephesus* 1, Pl. X, 88, for a somewhat similar specimen).

6 larger beads (diam. 7 to 8 mm.) in the shape of an aryballos with spherical body, and with the neck perforated in two directions forming four holes. The neck is open above.

1 gold cylinder 9 mm. long and 2 mm. in diam.

3 carnelian beads, 1 oval and 2 square.

No. 4569. T. 232. BELL 40-b, d, e, f, g. Total wt. including the 3 carnelian beads 9.7 gr. The stringing is modern.

32. Pl. 3, Fig. 2. TEN GOLD PENDANTS resembling a flower with bell-shaped calyx. They are hollow, with thin sides and are quite light in weight. At one end is a nearly spherical section with ten vertical ribs, surrounded at the top by a beaded ring. From this projects another portion resembling a spreading calyx with twelve petals with enlarged ends. Each is formed of two similar sections soldered together.

No. 4554. T. 232. BELL 40-a. Combined wt. 9.5 gr., ht. of each 1.5 cm. diam. base 1 cm. For other similar examples see Nos. 33 and 41 below.

33. Pl. 3, Fig. 3; Pl. 5, Fig. 1 (two views of same chain); Pl. 11, Fig. 22 (cast of intaglio). CHAIN formed of 43 gold beads of different forms, one gold pin and 27 beads of stone or paste, as follows:

4 gold beads, bell-shaped, resembling those in No. 32 above. At the smaller end is a beaded ring. The petals do not have the thickened ends of those under No. 32. Length 1.35 cm. Bell 12-a.

1 gold pin 1.4 cm. long (Bell No. 12-c) which once formed the lower portion of a pendant similar to the one described below under No. 34. All that remains is the central pin with the lower umbrella shaped cap 1 cm. in diameter, ornamented with a rosette of 12 petals on the under side with the large globular head of the pin in the center. The pin once engaged in the hollow central portion of a pendant of which the remainder has disappeared.

5 gold beads each 1.4 cm. long resembling somewhat a sea shell in their shape and decoration as they have in the center a horizontal depression bordered by herring-bone incisions. Contrary to sea-shell usage, however, the same decoration occurs on both sides.

10 nearly spherical hollow gold beads 8 mm. in diameter, formed each of two similar sections soldered together and ornamented in relief with six beaded rows which grow larger as they approach the center. This is probably an imitation of granulated technique.

6 nearly spherical smooth gold beads each 5 mm. in diameter, flattened at the sides.

7 biconical gold beads each 7 mm. long, similar to those described under No. 31, but without the end rings.

11 spherical gold beads each 6 mm. in diameter, with a ring surrounding the perforation on each side, and 10 rows of granulations of uniform size and excellent execution.

3 small spherical beads of glass paste.

1 banded onyx (?) bead 1.45 cm. in diameter, flat on one side, without intaglio.

23 spherical beads of different sizes, mainly of carnelian.

1 scarab of carnelian 1.2 cm. long, with a sketchy indication of the beetle form on the back. On the flat under side is carved in intaglio a heron, or ibis, feeding to the right. (See Pl. 11, Fig. 22).

No. 4570. T. 25. BELL 10, 12-a, c, 13. The present grouping is probably arbitrary. From the same tomb came pendants Nos. 34-37, mounted button No. 38 and ear-ring No. 68.

34. Pl. 3, Fig. 8. GOLD PENDANT of complicated form. Above is a ring for suspending formed of two parallel rings of wire between which are large globules alternating with horizontal rows of granulations. The lower portion consists of a bobbin shaped section with a disk above and below and a cylindrical center which

was once covered with some substance, probably glass paste, which has now disappeared. On the upper side of the upper disk is a rosette of 12 petals in relief. The lower disk (Cf. No. 33 above) has in relief on its under side an eight-petalled rosette, in the center of which is the round head of a pin which is engaged in the central cylinder of the pendant.

No. 4558. T. 25. BELL 12-b. Wt. 3.4 gr.; ht. 2.7 cm. In the same tomb were found chain No. 33, pendants Nos. 35-37, mounted button No. 38 and ear-ring No. 68.

35. Pl. 3, Fig. 4. SMALL GOLD PENDANT which once held a stone. Above is a large ring for suspending formed of two parallel wires between which is a row of large globes alternating with horizontal rows of fine granulations. Below is a conical bell-shaped portion with a dentellated edge beneath, of which the triangular points were pressed inward to hold in place the inset stone which has now disappeared. Each of the triangular points is covered with granulations, and the bell-shaped portion above is covered with rows of granulated triangles, three rows below pointing upward, and one row pointing down. Still another row of granulations surrounds the top of the bell-shaped portion at the junction of the ring. The whole surface is worn as if by much use.

No. 4559. T. 25. BELL 11-c. Wt. 1.8 gr.; ht. 1.9 cm. In the same tomb were found chain No. 33, pendants Nos. 34, 36, 37, mounted button No. 38 and ear-ring No. 68.

36. Pl. 3, Fig. 5. SMALL GOLD PENDANT with granulated decoration, similar to No. 35 but somewhat flattened instead of round. Between the bottom row of triangles and the dentellated edge is a band of herring bone decoration. The stone, a carnelian, is still in place and has in intaglio on its under side (not photographed) a roughly cut male figure bending backward, possibly as if in flight (Cf. No. 93). The pendant is much worn as if by use.

No. 4560. T. 25. BELL 11-b. In the same tomb were found chain No. 33, pendants Nos. 34, 35, 37, mounted button No. 38 and ear-ring No. 68.

37. Pl. 3, Fig. 7-a-b (two views of the same object). GOLD PENDANT with granulated decoration, similar to the last two numbers but larger. It is flattened as is No. 36, and has a similar band of herring bone decoration. The stone is adze-shaped and of blue glass paste.

No. 4561. T. 25. BELL 11. Ht. 2.55 cm. See the last number for the other objects from the same tomb.

38. Pl. 3, Fig. 9. CIRCULAR, BUTTON-SHAPED BANDED STONE (agate?) with a gold mounting around the edge. The stone has a flat bottom and rounded top. The mounting consists of a flat rim of gold on the under side and a row of large

globules around the edge, adjoined on the upper side by a row of 19 granulated triangles pointing toward the center. Two of these triangles have inset a minute gold ring as if to indicate the commencement of a perforation, and there is a hole extending for some distance inside of one of the rings. The real perforation however occurs slightly above the row of triangles, and this continues through from one side to the other.

No. 4556. T. 25. BELL 9. Diam. with mounting 2.15 cm.; ht. 7 mm. See under No. 36 for the other objects from this tomb.

39. Pl. 3, Fig. 10. SARDONYX, broadly oval, button-shaped and banded, with gold mounting around the edge as in last number. The stone is thinner. Adjoining the similar row of large globules surrounding the stone were originally 19 granulated triangles (2 are now missing) pointing inwards. The stone is pierced from side to side.

No. 4557. T. 50 (in BELL No. 4). The museum label has T. 25. Diam. 1.8 cm.; thickness 3.5 mm. In T. 50 were also found pendant N. 48 and ear-ring No. 61.

40. Pl. 3, Fig. 6. GOLD PENDANT formed of a gold cap with a ring above, and ornamented with granulations, and holding an inset, flat, oval, blue glass stone shaped like a neolithic adze with a sharp edge below. The ring above is formed of two small parallel rings of wire with between them a larger ring with a beaded surface imitating the globules and granulations of pendants such as Nos. 35-37. Below the ring is a circle of minute granulations around the neck. Below these and surrounding the cap are several rows formed of clusters of granulations, first in threes, then fours (two rows) and then threes again. Near the base of the cap is a gold wire with a row of granulations both above and below. Below the cap is a row of 14 triangular projections pointing downward and bent in to hold the stone. Each of these triangles is covered with granulations as in Nos. 35-37.

No. 5135. T. 805. BELL 168. Ht. 1.8 cm.; width of cap 1 cm.; thickness 6 mm. In the same tomb were found button No. 7, chain No. 43 and ear-rings No. 75.

41. Pl. 3, Fig. 12. NINETEEN GOLD BEADS and two gold pendants, as follows:

10 biconical gold beads 1 cm. long, with a ring at each end (Cf. No. 21 etc.).

1 oval gold bead 8 mm. long (not strung and not photographed).

5 gold beads each 1.3 cm. long, having on each side a depressed horizontal line bordered by an incised herring bone decoration, resembling the opening of a sea shell, as in No. 33.

3 flat, triangular beads, each formed of 15 very small pierced, spherical beads soldered together in pyramidal form with five in the bottom row, four in the next, etc., and with the perforations in line in each row so that it could if desired be strung in five places.

1 gold pendant of floral shape similar to those described under No. 32 above.

1 gold bell-shaped pendant with horizontal ribs and with a ring above for suspending. Diam. 1.25 cm. It probably once had a clapper as in the case of the pendants described under No. 42 below.

No. 4567. T. 24. BELL 24-a-e. Combined wt. 7.8 gr. From the same tomb came the two rosettes No. 5 and seal No. 107.

42. Pl. 3, Fig. 11. CHAIN formed of 29 gold beads of different forms, 1 gold clasp, 3 gold bell-shaped pendants and 24 beads of carnelian, as follows:

1 gold fragment, probably of a clasp, 9 mm. in ht., formed of a hollow cylinder 3 mm. in diameter, above which are two flat strips rolled over to form two adjoining rings.

2 spherical gold beads 5 mm. in diameter, each formed of a minute central cylinder surrounded by 10 rows of granulations on a nearly spherical core.

8 small ribbed cylinders of gold.

11 gold beads of the usual biconical form with a ring at each end (Cf. Nos. 21, 41, etc.).

8 spherical gold beads ribbed lengthwise, with a ring around the perforations at each end.

3 small gold bell pendants 1.3 cm. in diameter, with conical body ribbed horizontally. Above is a ring for suspending. In the center inside a wire clapper hangs from a small ring.

22 spherical carnelian beads.

1 carnelian bead of biconical form.

1 carnelian bead with several diamond shaped facets of different size.

No. 4568. T. 18. BELL 14-a-h. From the same tomb came gold band No. 13, pendant No. 50, ear-rings Nos. 60 and 82, and seals Nos. 121 and 123.

43. Pl. 4, Fig. 1. VERY LONG CHAIN, total length about 1.45 m., formed of 41 gold beads, numerous beads of glass, 1 paste eye bead and a very great number of minute (2.5 to 3 mm. in diam.) glass paste rings of different colors, white, light blue, light green and yellow. The paste rings are very fragile and break easily. Strung with them at intervals are the other beads mentioned above, as follows:

36 nearly spherical gold beads, very small, for the most part 3 mm. in diameter, but some are still smaller.

5 small cylindrical beads of gold 3 mm. in diameter, each surrounded by three rows of very small granulations.

1 spherical glass bead 6 mm. in diameter, with blue and black bands.

1 paste eye-bead 7 mm. in diameter.

Numerous other glass beads; 26 are 3 mm. long and triangular in shape; 3 are 7 mm. long and cylindrical.

No. 5136. T. 805. BELL 171. In the same tomb were found button No. 7, pendant No. 40 and ear-rings No. 75.

44. Pl. 4, Fig. 2. FORTY GOLD BEADS, as follows:

16 pendant beads of gold formed of two parallel ribbed cylinders 7 mm. long and 2 mm. in diameter, from each of which hangs a smooth spherical gold bead 8 mm. in diameter, separated from the cylinder by a ring of gold wire.

19 gold beads in the form of a knuckle bone 7 mm. long and 5 mm. high. Each is hollow and formed of two similar sections soldered together. At each end is a hole for stringing.

5 gold beads in the form of an aryballos, with a spherical body 6 mm. in diameter. The neck is perforated in two different directions (four holes) for stringing. (Cf. No. 29).

No. 5140. T. 75. BELL 178. Total wt. 20.7 gr. In the same tomb were found ear-rings No. 69 and lions No. 86.

45. Pl. 4, Fig. 3. Portions of ten flat triangular GOLD ORNAMENTS or beads each composed originally of 10 small, pierced, spherical beads, soldered together in pyramidal form, four below, then three, then two, then one, and placed with the perforations in each row in line so that they could be strung in four places. (Cf. No. 41). Seven triangles are complete and another is complete except for one missing bead.

No. 4607. T. 340. BELL 50. Total wt. 3.02 gr.; width of base 9 mm.; ht. 1.5 cm.; diam. of component beads 3 mm.

46. Pl. 4, Fig. 4. FOUR GOLD PENDANTS of different shapes, as follows:

One cylindrical pendant 6 mm. in diameter and 1.75 cm. long, surrounded by several ribs separated by rows of beading. On one side is attached a ribbed ring for suspending. It is hollow and contains glass paste held in place at each end by several triangular projections which are bent over to form a rounded cap.

Two pendants with a spherical body with a rosette in relief on the base (as in No. 31), and with a ribbed cylindrical neck above. The neck is pierced and traversed by a wire for suspension. Each is 9 mm. high.

One weighs .33 gr., the other .3 gr.

One pendant of pyramidal form with four equilateral faces each covered with 21 granulations, 6 at the base, then 5, etc. Attached to the base of the pyramid (which therefore pointed down) is a two-ribbed ring for suspension, with a row of granulations around the base. Wt. .43 gr. ht. 9 mm.

No. 4605. T. 326. BELL 47-a-c. From the same tomb came pendant No. 49 and seal No. 106.

47. Pl. 4, Figs. 5-a, 5-b (two views of the same object). Two long, perforated, cylindrical, GOLD BEADS of slightly tapering (club-shaped) form. They were probably intended to be placed one at each end of a chain. Each has a rounded cap at one end and a ribbed section at the other, adjoined in each case by a row of granulated triangles pointing away from the end. Along the rest of the surface of each are clusters of three granulations.

No. 4552. T. 4. BELL 22. Combined wt. .9 gr.; length of each 1.8 cm., diam. smaller end 3 mm.; of larger end 4 mm. In the same tomb were found ear-rings No. 67. Cf. *Marshall* Nos. 2038-9 for two club-shaped beads of later date from Kyme in Aeolis, used probably as terminal elements of a chain.

48. Pl. 4, Figs. 6-a, 6-b (two views of the same object). SMALL GOLD PENDANT in the form of a two-handled amphora, with very fine granulated decoration. Above the opening at the top is attached a ring for suspending, 3.5 mm. in diameter. It is formed of two parallel rings of wire with between them a row of small globules which project both on the outer and inner side, and have between them on the outer side horizontal rows of two, three or four extremely fine granulations. The slender handles are formed each of a double wire with a single row of granulations in the groove between. At the upper end of the handles each of the wires ends in a loop which stands out from the neck and has a granulation in the center. Below, each of the wires terminates in a spiral, one to the right and one to the left, on the side of the vase, with a granulation in the center of each spiral. Between each pair of spirals is still another loop of wire. Below the neck the top of the body is surrounded by a row of attached wire loops pointing down. At the base is a round knob surrounded above by a wire ring. The delicacy and precision of the workmanship of this pendant make it one of the most attractive objects in the entire collection.

No. 4555. T. 50. BELL 2. Wt. .63 gr.; ht. 1.5 cm.; greatest diam. 5 mm. In the same tomb were found Nos. 39 and 61.

49. Pl. 4, Fig. 7. PENDANT (or possibly an ear-ring) of rock crystal with a gold cap which terminates in a lion's head holding a ring for suspension in its mouth. The ring is large and made of a circle of heavy wire with a beaded ring on either side. At the base the gold cap terminates in a row of minute teeth. The crystal pendant is nearly cylindrical, but increases slightly in diameter from the flat top (which engages in the gold cap) to the rounded base. It is perforated near the top and is attached to the gold cap by means of a pin which has a round head on one side and is riveted on the other.

No. 4577. T. 326. BELL 45. Ht. 6.5 cm.; greatest diam. 1.15 cm. From the same tomb came pendants No. 46 and seal No. 106.

50. Pl. 4, Fig. 8. PENDANT (or possibly ear-ring) of rock crystal of similar shape to the last number. The gold cap is now detached and the lower portion of it is missing. The lion's head is better modelled than that of No. 49, and is surrounded back of the ears by a row of carefully made and rather large granulations. The ring for attaching is now missing but must have once existed, soldered to the end of the lion's mouth. The crystal is perforated above to receive the pin for attaching the cap.

No. 4526. T. 18. BELL 17. Ht. of crystal 3.9 cm.; of gold cap 1.4 cm. Wt. of gold cap. 1.45 gr. In the same tomb were found gold strip No. 13, chain No. 42, ear-rings Nos. 60 and 82, and seals Nos. 121 and 123.

51. Pl. 5, Fig. 3; Pl. 6, Fig. 1 (two views of the same object). GOLD CHAIN formed of 40 different elements as follows:

19 very small ribbed cylinders of gold of varying lengths, 8 mm., 9 mm., and 1 cm. They are all 2 mm. in diameter. Total wt. 2.23 gr.

20 gold floral shaped pendants or beads, each 9 mm. in height, each with a spherical calyx 6 mm. in diameter, with rows of cross-ribbed, alternating leaves (some on the outside and some appearing between these from behind), each terminating in a globule, and with a row of five smooth, upright petals above, each of which also terminates in a globule. They are all hollow and each has a perforation in the base of the calyx surrounded by a raised ring. Their combined weight is 7.11 gr.

1 gold disk 1 cm. in diameter, undecorated, with a small ring on one side for attaching. Wt. .18 gr.

The present arrangement is pleasing but is perhaps not that of the different elements in antiquity. The cylinders have nearly the same diameters as that of the openings in the base of the calyx and of the tubes formed by the petals, and engage in them in an awkward manner. It would seem more reasonable to suppose that the floral ornaments were intended to be seen in an upright position, in which case they may have served as pendants, either on a chain, or elsewhere on the body, and have been attached by some perishable material which has now disappeared.

No. 4645. T. 836. BELL 141-143. Combined wt. 9.52 gr. In the same tomb were found the plaques and rosettes Nos. 1-4, and the gold buttons No. 6.

52. Pl. 6, Fig. 2. CHAIN formed of 165 beads of different shapes, at present arranged in three strands. The different elements are as follows:

61 (87 were found, according to Bell) spherical gold beads, from 4.5 to 6 mm. in diameter, each formed of five rows of granulations, larger in the center and smaller on the sides, and with a ring surrounding the perforation at each end.

44 spherical, smooth gold beads, from 5 to 6 mm. in diameter.

19 smooth gold beads of irregular, nearly square, outline, each 6 mm. in length. Two contiguous sides are wider than the other two.

11 small gold cylinders each 6 mm. long and 2 mm. in diameter (one is somewhat longer), with a raised beaded ring at each end.

5 spherical, longitudinally ribbed beads, two of carnelian and three probably of glass paste, each with a gold ring surrounding each perforated end, and with a beaded gold wire extending along the bottom of each of the six longitudinal grooves. Diam. 7 mm. (5 others were found, according to Bell).

23 spherical carnelian beads, 6 mm. in diameter.

2 smaller carnelian beads of irregular form.

Evidently the present stringing does not reproduce the original order. Bell mentions 54 additional beads, some of gold and some of carnelian which were apparently left behind in Sardis.

No. 4571. T. 213. BELL 37. In the same tomb were found bead No. 55, gold rattle (or reel) No. 85, rings Nos. 88 and 95 and seal No. 108.

53. Pl. 5, Fig. 4. Pierced, barrel-shaped, AGATE (?) BEAD.

No. 4609. T. 368. BELL 82-d. Length 3.2 cm.; greatest diam. 8.5 mm.; diam. ends 5 mm. In the same tomb were found gold plaques No. 11 and beads No. 30.

54. Pl. 5, Fig. 5. PERFORATED ONYX BEAD, flat below and rounded above in the shape of an elongated eye, and cut in such a manner that the natural layers of the stone suggest the different portions of the eye. It is black below, then white and in the center of the upper rounded section there is a narrow elongated iris with a dark pupil.

No. 4530. T. 27. BELL 28-b. Length 2.7 cm.; ht. 1.15 cm.; width 7 mm. Under No. 28-a, Bell also mentions a pierced carnelian bead from T. 27. This is probably the cylindrical bead 2.5 cm. long and 8 mm. in diameter, No. 4529, which is in Constantinople with the other specimens. The photograph is so indistinct that it could not be reproduced in this catalogue. In T. 27 was also found seal No. 110.

55. Pl. 5, Fig. 6. Perforated barrel-shaped ONYX BEAD, black with a white band in the center.

No. 4563. T. 213. Not mentioned by BELL. If the museum label giving the tomb number is correct it was found with the gold rattle (or reel) No. 85 and the other objects listed in the note on that number.

56. Pl. 5, Fig. 7. Two small, ribbed, CARNELIAN BEADS, one 4 mm. long with four ribs, and one 7 mm. long and nearly spherical in form, with eight ribs.

No. 4565. T. 22. BELL 7-c. In the same tomb were found beads No. 29 and seal No. 119.

EAR-RINGS.

57. Pl. 6, Fig. 3. Fragments of two gold leech (or boat) shaped EAR-RINGS and several gold beads, etc., from the same tomb, as follows:

Two tapering wires for ear-rings each with an enlarged portion at one end where it once joined the main body.

One gold body of the so-called leech, or boat shape, i. e. a smooth, slightly curved, biconical, hollow body with a vertical ridge in the center and a ring at one end in which the free end of the semi-circular pin once engaged. Length 1.25 cm.

One gold bead for a chain in the shape of a minute aryballos with a spherical body 7.5 mm. in diameter. In the neck are two perforations (four holes) for stringing.

One small gold bead or pendant with a cross-ribbed neck and a spherical body, on the under side of which is a six-petalled rosette in relief. Ht. 7 mm.; diam. spherical portion 5 mm.

Two gold fragments of uncertain use.

No. 4601. T. 342. BELL 56, 58. In the same tomb were found ear-rings Nos. 58, 59 and 62.

58. Pl. 6, Fig. 4. Two small undecorated gold EAR-RINGS of leech shape, similar to the one described above. The pin is of wire bent into semicircular form. At the junction of the attached end with the body is a beaded ring between two plain rings. At the other end of the body is a wire loop into which the free end of the pin can engage.

No. 4598. T. 342. BELL 54. Combined wt. 2.2 gr.; length of each 1.4 cm. From the same tomb as Nos. 57, 59, 62.

59. Pl. 6, Fig. 6. TWO GOLD EAR-RINGS of leech shape, similar to No. 58 but smaller.

No. 4599. T. 342. BELL 55. Combined wt. 1.75 gr. From the same tomb as Nos. 57, 58 and 62.

60. Pl. 6, Fig. 5. Very small leech-shaped, undecorated gold EAR-RING similar to Nos. 57-59.

No. 4546. T. 18. BELL 16. Wt. .6 gr.; length 1.3 cm. In the same tomb were found gold band No. 13, chain No. 42, pendant No. 50, ear-rings Nos. 60 and 82, and seals Nos. 121 and 123.

61. Pl. 6, Figs. 7-a, 7-b (two views of the same object). Small gold leech-shaped EAR-RING with granulated decoration and two (originally three) pendants. The shape is as in the last described specimens except that the biconical body is slightly broader and is of larger diameter at the end where the pin is attached. At this point the body is surrounded by a row of hemispherical globules with rows of granulations between and also along both sides. At the other end of the body is the usual wire loop into which the free end of the pin can engage. The half of the body which has the wire loop at the end is undecorated. The other half has a decoration, similar on both sides, consisting of two rows of solid granulated triangles with radiating lines formed of a single row of granulations. The two remaining minute pendants have the form of amphorae, but without handles. One is entirely covered with granulations; the other is without decoration. Each has a wire ring around the top above which is an attached ring forming part of the chain of three links by which the pendant is attached to the main body of the ear-ring. At the base is a round globule.

No. 4547. T. 50. BELL 1. Wt. 1.3 gr.; ht. with pendants 2.3 cm. In the same tomb were found Nos. 39 and 48.

62. Pl. 6, Fig. 8. TWO GOLD EAR-RINGS, each made of a single wire bent to form a nearly perfect circle with the ends almost touching. Cf. Nos. 73-4 below.

No. 4603. T. 342. BELL 57. Combined wt. 2.5 gr.; diam. 1.95 cm. In the same tomb were found ear-rings 57, 58 and 59.

63. Pl. 7, Figs. 1-a, 1-b (two views of the same object). GOLD EAR-RING, nearly two thirds of a circle, with several concentric ribs. It is flatter than the leech-shaped varieties, broader in the center, and without the ridge. On both the inner and outer edges is a row of small projections formed of one large globule on which rests a smaller granulation. The ends are broad and had attached the rather short pin by means of double loops at the ends of the body, and single loops at each end of the pin, with a cross pin at each end to hold them in place.

No. 4647. T. S. 10. BELL 150. Wt. 2.05 gr.; length 2.2 cm.

64. Pl. 7, Fig. 2. TWO GOLD EAR-RINGS, over three fourths of a circle. The body is hollow and nearly cylindrical in cross section. The outer portion has a rounded profile with 38 radiating ribs. The inner section is undecorated and terminates in a sharp edge within. On each of the flat, truncated ends two small rings are attached. On each end of the semi-circular pin is a loop which when in place rests between the two rings at each end of the body. The fastening was effected by means of a still smaller wire which passes through the three rings, two of the body and one of the pin. The ivory head described below, No. 87, wears

ear-rings which resemble very closely the present examples, the only difference being that they have fewer and broader radiating ribs.

No. 5148. T. 921. BELL 164-5. Combined wt. 4.2 gr.; length of each 2.15 cm.; thickness 6 mm. In the same tomb were found chain No. 22 and ear-ring No. 65.

65. Pl. 7, Fig. 3. SMALL GOLD EAR-RING of leech-shape, with a granulated decoration as in No. 61, but simpler. As in the case of No. 61, the pin is attached permanently on the end which has the more complicated granulated decoration, and this was the portion evidently intended to hang toward the front. At the junction of the fixed end of the pin is a small ring adjoined by a row of globules. From these globules radiate several rows of granulations which terminate in clusters of four granulations each near the central ridge of the body. At the other end of the body is attached a small ring in which the free end of the pin can engage. From this ring radiate two short rows of granulations, each terminating in a spiral loop. The balance of this section is without decoration except for an attached wire ring below, from which probably once hung a pendant which is now missing.

No. 5149. T. 921. BELL 166. Wt. .5 gr.; length 1.05 cm. In the same tomb were found chain No. 22 and ear-rings No. 64.

66. Pl. 7, Fig. 4. GOLD EAR-RING of leech-shape, with pendants. The body is hollow. The ridge between the two sections is barely indicated. The tapering pin has the larger end attached to one side of the body. The pin is bent into semi-circular form and the free end can engage in an opening in the opposite side of the body. At each end of the body are two horizontal wire rings with between them a row of projecting globules alternating with vertical rows of four or five granulations. On both sides of the body is a similar and complicated decoration of granulated lines in two different sections which are separated by the central vertical ridge. Below the horizontal rings, at the end where the pin is attached, are several vertical rows of granulated triangles, and between these and the ridge are several parallel horizontal rows of granulated lines. At the other end below the rings is a granulated triangle from which radiates a granulated line ending in a spiral. Below is still another similar line. The space above is occupied by clusters of four granulations each. Below the body hang eight (originally nine) very small pendants from three-link chains. The bodies of the pendants have vertical ribs and resemble seeds, and have attached below one large and one small globule.

No. 5132. T. 920. BELL 157. Wt. 4.1 gr.; length of body 1.9 cm.; total ht. 3.6 cm.

67. Pl. 7, Figs. 5, 6. Two large and heavy GOLD EAR-RINGS each formed of a hollow cylindrical portion bent to form a nearly complete circle, and modelled as if made up of 13 contiguous spheres each 1 cm. in diameter. In each of the grooves between two spheres is a double row of granulations surrounding the body.

Some of the granulations are quite carelessly made. At each end of each body is a fairly well modelled though somewhat heavy lion's head separated from the first sphere by a row of larger granulations. The ears of the lions are broad and in high relief. The mane surrounds the head. The mouth is open. Each head has two rings attached, one to the nose and one to the lower jaw. The short slightly curved pin of heavy wire has a ring on each end. These rings engage between the two rings on each head. The fastening was effected by means of a pin with a large round head which passed through the three aligned rings and was then bent over at the end.

No. 4543. T. 4. BELL 21. Wts. 20.05 and 20.07 gr.; diam. of each 5.9 cm. In the same tomb were found beads No. 47.

68. Pl. 7, Fig. 7. GOLD EAR-RING similar to the two described above but smaller and of more careless execution. Between the spherical swellings are single rows of granulations, and another single row surrounds the back of each head, all of inferior workmanship. The pin is attached in the same manner.

No. 4544. T. 25. BELL 8. Wt. 10.9 gr.; diam. 4.2 cm.; diam. spherical swellings 7.5 mm. In the same tomb were found chain No. 33, pendants No. 37 and button No. 38.

69. Pl. 7, Figs. 8-a, 8-b. Two large heavy, circular GOLD EAR-RINGS each formed of a tube surrounded by ribs which are vertical near the ends and gradually slope inward as they approach the center from each end. In the exact center the upper edges of the last two ribs meet, and the triangular space below is filled by several shorter ribs. The body of each ear-ring is bent to form an almost complete circle. The short pin is round and very heavy (8 mm. long and 4 mm. in diam.) and has the usual ring on each end which engages between two heavy rings on the ends of the body. The actual fastening was effected by a double pin with the ends bent over to hold it in place.

No. 5141. T. 75. BELL 175-6. Wts. 11.4 and 11.3 gr.; diam. 4.3 cm.; diam. of tube of body 6 mm. In the same tomb were found chain No. 44, lions No. 86 and ring No. 89.

70. Pl. 7, Figs. 9-a, a, 9-b, b (two different views of each). TWO GOLD EAR-RINGS two-thirds of a circle in shape, each made up of three rows of small gold spheres attached to a central wire. In the outer row are twelve spheres; in each of the two inner rows are nine spheres. The fastening was effected in the same manner as in No. 79, i. e. a short curved pin ends in rings which can engage between double rings on the ends of the body and be held in place by pins.

No. 4586. T. 381. BELL 97. Combined wt. 4.25 gr.; length 1.8 cm. They were found to the right and left of the head in the sarcophagus. In the same tomb were found chain No. 25, beads No. 26 and ring No. 92.

71. Pl. 7, Fig. 10. GOLD EAR-RING formed of a piece of plain wire bent to make a perfect circle. The ends terminate in loops, one closed, and one open to engage in the other.

No. 4584. The museum label leaves it uncertain from what tomb this came. The inventory number would indicate T. 381. It is not mentioned by BELL. Wt. 2.4 gr.; diam. 2.2 cm.

72. Pl. 7, Figs. 11, 12. TWO GOLD EAR-RINGS of heavier wire than the last described example. The form and means of fastening are the same.

No. 4638. T. 826. BELL 132-3. Wt. of the two 8 gr.; diam. 2.3 and 2.4 cm. They were found in the right bed of the tomb.

73. Pl. 7, Fig. 13. CIRCULAR GOLD EAR-RING of the simplest type of all, made of a plain gold wire bent to form a circle with the ends touching.

No. 4600. T. 369 C. BELL 83. Wt. 2.2 gr.; diam. 1.9 cm. In the same tomb were found the gold fragments No. 17.

74. Pl. 7, Fig. 14. CIRCULAR GOLD EAR-RING, similar to No. 73.

No. 4582. T. 369 D. BELL 85. Wt. 2.05 gr.; diam. 1.9 cm.; diam. wire 2 mm.

75. Pl. 7, Fig. 15. TWO EAR-RINGS of very fine gold wire bent to form circles and fastened by twisting the ends.

No. 5137. T. 805. BELL 169-170. Combined wt. .4 gr.; diam. about 1.3 cm. In the same tomb were found button No. 7, pendant No. 40 and chain No. 43.

76. Pl. 7, Fig. 16. CIRCULAR GOLD EAR-RING formed of three wires, one quite fine in the center resembling a twisted rope, adjoined on either side by larger wires which are twisted in apposite directions. At one end these wires terminate in a masking rosette, 6 mm. in diameter, with six petals surrounded by a raised twisted wire. Above the rosette projects a ring into which can engage the pin which projects from the other end of the ring.

No. 5139. T. 805. Not mentioned by BELL. Wt. 1 gr.; diam. 1.4 cm.; diam. of the three wires together 2.5 mm.

77. Pl. 7, Fig. 17. TWO CIRCULAR EAR-RINGS of fine gold wire which is heavier in the center than at the ends, and is fastened in each instance by twisting the ends together.

No. 4545. T. 201. BELL 31. Combined wt. 2.15 gr.; diam. 1.8 cm. They were found beside the remains of the head. In the same sarcophagus was a pair of silver bracelets (BELL 32) which were not sent to Constantinople.

78. Pl. 7, Fig. 18. HEAVY GOLD CIRCULAR EAR-RING made of solid wire 2 mm. in diameter. At each end is a loop of lighter wire of which one is split to receive the other.

No. 4549. T. 26. BELL 27. Wt. 4.15 gr.; diam. 1.55 cm.

79. Pl. 7, Fig. 19. GOLD EAR-RING (probably) formed of a heavy gold wire with square cross section bent to form two long loops. At each end is a ring through which passes a fine wire which is then wrapped four times around the main body. The date is probably later than that of the majority of the gold objects, since bracelet No. 101 from the same tomb is of the early fourth century.

No. 4551. T. A. (1) BELL 111. Wt. 2 gr.; length 2 cm. In the same tomb were found ear-rings No. 80 and bracelet No. 101.

80. Pl. 7, Figs. 20-a, 20-b. Two large circular GOLD EAR-RINGS made of heavy wire 3 mm. in diameter, bent to form a circle with the ends nearly touching.

No. 4542. T. A. (1). BELL 110. Wt. 16.6 and 17.1 gr.; diam. 4 cm. In the same tomb were found ear-ring No. 79 and bracelet No. 101.

81. Pl. 8, Fig. 1. CIRCULAR GOLD EAR-RING formed of a heavy wire 2 mm. in diameter with rows of alternating diamond shaped facets that give it something of the appearance of a braided cord.

No. 4583. T. G. 5 (on museum label). Wt. 4.2 gr.; diam. about 2.4 cm.

82. Pl. 8, Fig. 2-a, 2-b. Two heavy circular SILVER EAR-RINGS formed of a thick wire 3 mm. in diameter, bent into circular form with the ends nearly touching.

No. 4573. T. 18 (35 on museum label, but 18 in BELL). BELL 20. Diam. 3.4 cm. From the same tomb came band No. 13, chain No. 42, pendant No. 50, ear-rings No. 60 and seals Nos. 121 and 123.

83. Pl. 8, Fig. 3. Large circular SILVER EAR-RING (or possibly a child's bracelet) 4.11 cm. in diameter, made of heavy wire 3 mm. in diameter. The ends, which overlap slightly, are still thicker and have each four cross ribs.

No. 4649. T. 812. BELL under No. 123 catalogues a bronze bracelet 5.4 cm. in diameter, but does not mention this one. In the same tomb was found gold strip No. 20. BELL lists a silver bracelet 4.7 in diameter from T. 826 which may be the present example, in which case the museum label is erroneous.

84. Pl. 8, Fig. 4. SMALL SILVER PENDANT, or ear ring. Above is a large ring from which hangs a vase-shaped pendant with a broad neck and a spherical body. It is much corroded.

No. 4644. T. 620 (on the museum label T. 826). BELL 115. Ht. 2.35 cm.

MISCELLANEOUS OBJECTS.

85. Pl. 8, Figs. 5, 6. HOLLOW GOLD RATTLE (or possibly reel) in the shape of a large spool or bobbin. It is formed of a central cylinder 1.25 cm. in diameter and 3.2 cm. long, to each end of which is attached a slightly convex disk 5.3 cm. in diameter, ornamented on the outer side with 19 concentric circles of fine wire, with a border of broader wire around the outer edge and around the central cylinder. Between the disks, and thus concealing the central portion of the central cylinder, is an undecorated smooth portion with a concave profile, starting from near the outer edge of the disks on either side and decreasing in diameter towards the center where it is 4 cm. in diameter. In the hollow space inside are 27 small pellets (average diam. 2 mm.; combined wt. 2.4 gr.) which are also of gold in spite of the fact that they were never intended to be seen. The whole object is formed of massive gold and is quite heavy. It makes a decided noise when rolled, and was possibly intended to serve as a child's rattle, although the form is that of a reel. It may have been used for both purposes.

No. 4562. T. 213 (the museum label gives 25, but BELL is more probably correct in giving 213). BELL 33. Wt. 62.5 gr. In T. 213 were also found bead No. 54, chain No. 52, rings Nos. 88 and 95 and seal No. 108.

86. Pl. 8, Figs. 7-a, 7-b, b, 7-c, c, c. THREE SMALL GOLD LIONS each on a flat rectangular base 2.05×1 cm. in size. They are badly modelled, with over-large heads, and are represented as crouching on the ground with their heads turned to one side, one to the right (Fig. 7-c) and two to the left (a, b). The mouths are open. The manes and other details are indicated by numerous incised lines. Surrounding the legs on the base is a beaded wire. Each base has 12 holes for attaching to cloth or some other material, possibly to the corners of a box. From the fact that one head turns to the right and two to the left it is reasonable to suppose that still another with the head to the right once made up a set of four.

Nos. 5143-5. T. 75. BELL 172-4. Wts. 2.7 to 2.8 gr.; ht. 1.3 cm.; width 7 mm. In the same tomb were found chain No. 44, ear-rings No. 69 and ring No. 89. It seems probable that a fourth lion was stolen at the time of the excavation, as one apparently corresponding to the above description was on sale in Athens two years ago. I endeavored to see the specimen and purchase it for the Constantinople museum but by the time I reached Athens it had been sold to some unknown person. [Since the above was written the fourth lion has been found and is to be restored to the collection in Constantinople. It is a duplicate of No. 7-c as was supposed. Ed. note].

87. Pl. 8, Figs. 8-10. SMALL FEMALE HEAD of ivory, probably from a chrys-elephantine statuette. The face and ears alone remain. Above the forehead and back of the head are flat surfaces on which evidently rested the gold portion with the hair and back of the head. The face is well modelled in the archaic manner of possibly the 7th. century B. C.

The eye is long and almond shaped. The eye brow is represented by a double curved line in relief. The prominent nose continues the line of the forehead without a break in the manner common on Hittite monuments. The mouth is narrow with full, well modelled lips. The cheek bone is high in the archaic manner. On each cheek is a horizontal, crescent-shaped depression, and below the lower lip is still another depression. This is an unusual feature possibly of religious import. The ears are large and fully modelled. Attached to each is a large circular ear-ring 1 cm. in diameter carved in the ivory, of the same type as No. 64 except that the radiating ribs are fewer and larger. Through the neck and back of the head is a vertical perforation 7.5 mm. in diameter.

No. 4657. Ht. 4.1 cm. Cf. *Sardis I*, p. 140 and Ill. 156. It was found in a plundered tomb of early type in the S. necropolis.

RINGS.

88. Pl. 9, Fig. 1. GOLD RING of woven wire, formed of six rows of very delicately worked, diagonally joined links, alternating in direction and thus forming a herring bone design. The ends of the chain terminate in a narrow circular band which has on its outer surface a minute circular, undecorated bezel 2 mm. in diameter.

No. 4550. T. 213 (26 on the museum label which is probably erroneous) BELL 36. Wt. 2.2 gr.; diam. 2.1 cm. In T. 213 were also found chain No. 52, rattle (or reel) No. 85, rings Nos. 88 and 95 and seal No. 108.

89. Pl. 9, Fig. 2. SMALL GOLD SEAL RING with unornamented flat diamond shaped bezel which is merely a broader continuation of the ring with no mark of separation.

No. 5142. T. 75 BELL 177. Wt. 1.8 gr.; diam. 2 cm.; bezel 1.3 x .65 cm. In the same tomb were found chain No. 44, ear-rings No. 69 and lions No. 86.

90. Pl. 9, Fig. 3; Pl. 11, Fig. 13. GOLD SEAL-RING with diamond-shaped bezel also of gold with no mark of separation between it and the ring. On the bezel in

intaglio is a lion with open mouth advancing to the right. The tail is curled up over the back. In front is a circle with two curved lines below. Behind the lion is a bird with hooked beak.

No. 4636. T. 811. BELL 121. Diam. 2.25 cm.; length of bezel 1.6 cm.; width of bezel 8.5 mm. Found in the sarcophagus. In the same tomb were found ring No. 97 and seal No. 109.

91. Pl. 9, Fig. 4; Pl. 11, Fig. 16. GOLD SEAL-RING with large, slightly convex, oval bezel which is bent over at each end to join the semi-circular hoop of the ring without marks of separation. On the bezel in intaglio is a woman seated to the right on a chair with curved back and legs. She is clad in a long robe. The breasts are clearly indicated. She wears her hair in a knot behind the head. The left arm is outstretched. In front of her knees are two small crescents, one horizontal above, and one vertical below. The ring is worn as if by much use. The face of the woman is entirely worn away.

No. 4637. T. S. 16. BELL 155. Diam. 1.8 cm.; length of bezel 1.5 cm.; width of bezel 8.5 mm. In the sarcophagus with this was also found ring No. 94.

92. Pl. 9, Fig. 5; Pl. 11, Fig. 32. GOLD-RING with heavy hoop of about three fourths of a circle and much thicker at the ends where it joins the broad, flat, oval gold bezel. On the bezel in intaglio is a lion advancing to the right, with open mouth. Its tail extends out behind with the end bent upward and forward. Under the feet is a straight line to represent the ground.

No. 4585. T. 381. BELL 98. Wt. 8 gr.; diam. ring. 2 cm.; length of bezel 1.6 cm.; width of bezel 1.25 cm. In the same tomb were found chain No. 25 and beads No. 26.

93. Pl. 9, Fig. 6; Pl. 11, Fig. 19. GOLD-RING, with engraved carnelian scarab mounted on a swivel. The hoop is of heavy gold wire 2 mm. in diameter, terminating in broader rounded sections which are perforated. The stone is perforated and is held in place by a fine wire which passes through it and the ends of the hoop and is then wrapped five times around the hoop on each side. The back of the scarab has the usual beetle form, but with very little modelling and with but two incised lines to mark the wings. On the flat under surface in intaglio is a poorly executed figure of a man with wings (?) advancing to the right and holding a wreath in the left hand and a branch in the right.

No. 4519. T. B (1) BELL 113. Diam. ring 2.2 cm.; length of scarab 1 cm.; width 6 mm.

94. Pl. 9, Figs. 7-a, 7-b (two views of the same object); Pl. 11, Fig. 21. GOLD-RING with engraved carnelian scarab mounted on a swivel. The hoop is of slightly

lighter wire than that of No. 93 (diam. 1.5 mm.). The mounting is of the same type, with six wrappings of the fastening wire on each side. The back of the scarab has but little modelling. The folded wings are indicated by two double incised lines. On the under side in intaglio is a lion bounding to the right, with open mouth. The tail is erect and is curved forward over the back. The workmanship is better than that of No. 93, but is not of the best.

No. 4634. T. S 16. BELL 156. Diam. ring 2.1 gr.; length of scarab 1.2 cm.; width 8 mm. In the same sarcophagus was found ring No. 91.

95. Pl. 9, Figs. 8-a, 8-b (two views of the same object). Gold ring with large flat oval undecorated bezel. The semi-circular hoop is of heavy wire modelled as if of some braided material, with triangular facets alternating in four rows.

No. 4548. T. 213. BELL 35. Wt. 4.95 gr.; diam. 2 cm. In the same tomb were also found chain No. 52, rattle (or reel) No. 85, ring No. 88 and seal No. 108.

96. Pl. 9, Figs. 9-a, 9-b (Two views of the same object); Pl. 11, Fig. 1. GOLD RING with large engraved carnelian scarab mounted on a swivel. The type of mounting is the same as in No. 94. The scarab is larger and the hoop therefore has its ends farther apart. The back of the scarab has more modelling than the specimens described above, including some indication of the head of the beetle in front, and there are several horizontal and inclined ridges on the high sides to represent the folded legs. On the flat oval under surface is carved in intaglio a long-legged bull advancing to the right. The tail is erect and at the end forms a loop with the tip pointing down. Below the feet is a line to represent the ground. The workmanship is better than that of Nos. 93 and 94.

No. 4520. T. 220. BELL 38. Diam. 2.1 cm.; length of scarab 1.6 cm.; width 1.25 cm., ht. 1 cm. In the same tomb were found chain No. 28 and seal No. 112.

97. Pl. 9, Figs. 10-a, 10-b (two views of the same object). HEAVY GOLD RING with carnelian scarab in silver mounting. The hoop is of heavy gold wire 3 mm. in diameter with thickened perforated ends. The perforated scarab is held in place as in the previously described specimens by a fine wire which traverses the perforation and the holes in the end of the hoop and is then wrapped 14 times on each side. The back of the scarab is well modelled. Even the legs on the sides are indicated. The lower edge and the flat bottom are covered with a silver mounting which may once have had an intaglio below but is now so corroded that one cannot be certain. The stone beneath the mounting is without decoration. Around the edge of the silver mounting on the side are two rows of silver granulations with a silver wire below. These granulations are much coarser than the customary gold specimens. Those in the lower row appear almost like beaded work. Above the upper row is a row of raised triangles pointing upward and imitat-

ing evidently the granulated triangles of the gold ornaments. The ring was found on one of the fingers in the sarcophagus.

No. 4633. T. 811. BELL 122. Diam. hoop 2.5 cm.; length of scarab 1.45 cm.; width 1.2 cm. In the same tomb were found ring No. 90 and seal No. 109.

98. Pl. 9, Figs. 11-a, 11-b (two views of the same object); Pl. 11, Fig. 4. HEAVY GOLD RING with a carnelian scarab on a swivel. The hoop is made of gold wire in the form of a horseshoe. It is fairly thick in the center and decreases gradually in diameter to the ends which terminate in hemispherical knobs. A pin traverses the scarab and is riveted to the knobs on either side. On the back the scarab has a small amount of modelling and a few incisions to represent the head, wings and legs. On the flat under surface is carved in intaglio a boar advancing to the left. A broad row of projecting bristles extends from the front of the head along the entire back to the tail which is represented by a circular loop. Below the feet is a straight line to indicate the ground. Above in the field is an anchor-shaped symbol. The execution is excellent.

No. 4632. T. 722. BELL 118. Diam. 2.2 cm.; length of scarab 1.3 cm.; width 8.5 mm.

99. Pl. 9, Fig. 12; Pl. 11, Fig. 2. VERY HEAVY SILVER RING of horseshoe shape with an oval, stone intaglio mounted on a swivel. A silver wire traverses the stone and the thickened ends of the hoop and is then wrapped twice on each side. The stone is black with reddish bands (hematite?). It has a rounded top and flat oval base on which is deeply carved in intaglio a lion crouching to the right. The head is small. The bristling mane is excellently executed. The tail curls up and over behind. The paws are over large and are represented by a series of dots. Below the feet is a line. In the field above is a key-shaped symbol (see photograph).

No. 4639. T. 701. Diam. hoop 2.5 cm.; diam. wire of hoop 4. mm.; length of stone 1.7 cm.; ht. 7 mm.

100. Pl. 9, Fig. 13; Pl. 11, Fig. 15. HEAVY CIRCULAR RING of gold gradually thickening from back to front. In a cavity in the broadest portion is inset a carnelian intaglio with a carelessly engraved figure of a woman advancing to the right. Her arms are upraised and she holds in her hands fluttering objects of uncertain nature. Probably later than the majority of the specimens.

No. 4635. No tomb number is given on the museum label and it is not mentioned by BELL. Probably a late find. Diam. hoop 2.5 cm.; length of stone 9 mm.

101. Pl. 9, Figs. 14, 15 (two views); Pl. 11, Fig. 3. BRACELET OF GOLD WIRE with large chalcedony seal mounted on a swivel. The gold wire, 3 mm. in diameter, is continued at each end by a short piece of finer wire which is bent over to form

a loop and is then wrapped twice around the heavier section. The seal is held in place by a gold wire which passes through the perforation and the loops at the ends of the bracelet and is then wrapped twice around the sections between the loops and the seal on each side. The seal is rounded above, and has in intaglio on the flat under side a carefully cut group of Athena and Hermes facing. To the left stands Athena, facing to the right, clad in a cuirass and long robe, and holding with her upraised left hand the top of a spear of which the other end rests on the ground. Her lowered right hand holds the top of her shield which also rests on the ground. She is advancing to the right with her left foot on the ground and the right drawn back with only the toes touching. She wears a Corinthian helmet with a long crest extending down behind. Hermes stands facing Athena. He has a petasos on his head, a chlamys over his shoulder, and in his left hand behind his back he holds the kerykeion which projects from behind above his left shoulder. His right forearm is stretched forward. His right foot is flat on the ground and the left is drawn back with the toes touching. The bracelet was found (*Sardis I*, p. 84) in a sarcophagus of different type from the usual variety. The date is later than that of the majority of the objects, probably of the early fourth century B. C.

No. 4518. T. A (1). BELL 109. Diam. 7.1 cm.; length of stone 3 cm.; ht. 1.3 cm. In the same tomb were found ear rings 79 and 80. The bracelet is illustrated in *Sardis I*, Ill. 84.

102. Pl. 9, Fig. 16; Pl. 11, Fig. 12. SCARAB OF WHITE PASTE with but little modelling. On the flat under surface in intaglio is a crude representation of a man running to the right and holding his left arm outstretched with the forearm raised. In the field are two elongated symbols of uncertain meaning. The scarab is perforated lengthwise.

No. 4640. T. 837. BELL 144. Length 1.7 cm.; width 6.5 cm.; ht. 8 mm.

103. Pl. 9, Fig. 17. SMALL EGYPTIAN PASTE ORNAMENT in two pieces, representing a standing figure with animal head. It is too much worn to allow one to determine the details.

No. 4532. T. I. Not mentioned by BELL. Ht. 2.5 cm. It is listed here because it is placed with the gold objects in Constantinople.

104. Pl. 10, Fig. 1; Pl. 11, Fig. 20. GOLD PENDANT holding engraved cylinder of onyx. The gold mounting consists of a long pin which passes through the cylinder and has a neck and ring above. On the pin are two disks of the same diameter as the cylinder which is held in place between them. The upper disk rests on top of the cylinder. The pin traverses the lower disk and is riveted below. Above the upper disk is a ribbed neck and above this is a ring for suspension formed of two

parallel wire rings with a row of large globules between them which project both outside and in. Beneath each ring on opposite sides of the neck is a single granulation. The cylinder has four white bands diagonally placed near the top. It is engraved in intaglio for four-fifths of its circumference with a group of five figures. Above in the center is a bearded male figure standing to the left with a long belted robe open on the right side nearly to the knee. Above the belt appears the curved handle of his sword, common on Hittite reliefs. He wears a square cap, from behind which the hair falls to the shoulder in a large rounded mass. On his feet are « Hittite » shoes with pointed upturned toes. The feet rest, one on each of the heads of two winged sphinxes with bearded human male heads, which crouch facing, each with the leg away from the spectator raised with the paws touching. The wings are curved upwards and forwards. The tails are raised with the tips bent over and down behind. The male figure above has its arms outstretched, one in front and one behind, and seizes with each hand the throat of a winged lion which is thus held in mid-air with one hind and one fore paw pressed against the body of the man and one fore leg raised beside his head. A straight line below the feet of the two sphinxes indicates the ground.

No. 4581. T. 813. BELL 125. Total ht. 3. cm. Cylinder 1.85 cm. high; 7.5 mm. in diam. In the same tomb were found gold ornaments of No. 12.

105. Pl. 10, Fig. 2; Pl. 11, Fig. 31. CYLINDER of bone (?) with a trace of a silver pin with its head at one end. A very crude engraved design surrounds the cylinder consisting of a rough geometric representation of two animals facing, either horses or stags, with a tree between their heads and another between their tails. A single line suffices even for the bodies and heads of the animals.

No. 4643. There is no indication of the tomb in Constantinople and it is not mentioned by BELL. Ht. 2 cm. Diam. 1.2 cm.

106. Pl. 10, Fig. 3; Pl. 11, Fig. 7. SMALL CARNELIAN SEAL with gold mounting. The stone has the typical conical shape with rounded top and bevelled sides giving eight flat faces. The gold holder consists of a flat curved strip which clasps the stone tightly and extends down either side nearly to the base. At each end of this strip is a palmette with two spirals and five petals. Additional security is given by a pin which is attached to the flat strip on either side and traverses the stone from side to side above the palmettes.

Attached to the top of the curved holder is a ring for suspending formed of a central ring of heavy wire with, on either side, a smaller ring with a decoration of tooth-shaped ornaments in relief all pointing towards the center. On the lower flat face of the stone is carved in intaglio of fair workmanship a lion standing to

right with open mouth and with one fore leg raised and pointing forward. The tail is raised and the tip brought forward over the back.

No. 4580. T. 326. BELL 44. Ht. with mount 1.7 cm.; greatest diam. 1 cm.; ht. of seal 1.2 cm.; base of seal, 8 x 7 mm. In the same tomb were found pendants No. 46 and No. 49.

107. Pl. 10, Fig. 4; Pl. 11, Fig. 23. CONICAL CHALCEDONY SEAL with bevelled sides and rounded top, and with a gold holder similar to the last except that on the sides the gold strip extends only a trifle over half way down and terminates in rounded swellings, probably simplifications of the duck's bill of Nos. 109, etc. At about half its height the stone is perforated and traversed by a wire attached to the mounting. The ring at the top is made of a gold band with three parallel ribs. On the lower face of the seal is engraved in intaglio a bearded male harpy wearing a round cap and holding before it a lyre which apparently rests on one outstretched wing (the one away from the spectator). The other wing is raised and slightly curved.

No. 4521. T. 24. BELL 25. Total ht. 2.2 cm.; greatest diam. of stone 1 cm.; width .75 cm.; ht. of stone 1.5 cm. In the same tomb were found the two rosettes No. 5 and beads No. 41.

108. Pl. 10, Fig. 5; Pl. 11, Fig. 10. CONICAL CHALCEDONY SEAL with eight bevelled faces and with gold mounting similar to that of No. 107. The ring at the top is made of two parallel gold rings enclosing between them a row of large globules which are separated by rows of fine granulations. The stone is perforated and held by a wire attached to the sides of the mounting, the ends of the mounting terminating in broader parts, evidently simplified duck's bills imitating the better executed type as seen in No. 109. On the under flat side of the seal is engraved in intaglio a poorly executed winged male figure facing the left with one leg raised and with hands outstretched and holding some uncertain objects. Bell speaks of winged heels. I did not notice this feature in Constantinople.

No. 4522. T. 213. BELL 34. Total ht. 2.3 cm.; ht. stone 1.5 cm.; greatest diam. of face 1 cm.; width .7 cm. In the same tomb were found chain No. 52, rattle No. 85, rings Nos. 88 and 95 and probably bead No. 54.

109. Pl. 10, Figs. 7-a, 7-b (two views of same object), Pl. 11, Fig. 26. CONICAL CHALCEDONY SEAL with rounded top and eight bevelled faces, and with a gold mounting similar to that of Nos. 107-8 but of better workmanship. The ring above has a central ring of heavy gold wire bordered on each side by a smaller ring of beaded wire. The gold strip which clasps the stone terminates on either side in a carefully executed duck's head with a long broad bill. The eyes are indicated.

Back of the head are numerous minute hatchings to represent the feathers, and behind these are two engraved cross lines. Additional security is given by a

cross wire which traverses the stone and is attached inside the ducks' heads. The intaglio on the under side is also of excellent execution (Pl. II, Fig. 26) and has represented a winged crouching monster with goat-like head with one broad knobbed horn which curves upward and backward. Beneath the chin is a long tuft or beard. The right fore-leg is raised in front, the left rests on a line which represents the ground. Between the upraised tail with the end bent over backwards, and the raised slightly curved wing, is a U-shaped symbol with curved-over ends.

No. 4641. T. 811. BELL 120. Total ht. 2.95 cm.; ht. stone 2.15 cm.; engraved face 1.6 cm. broad. Found in s. e. corner of a tomb from which came also rings Nos. 90 and 97.

110. Pl. 10, Fig. 6; Pl. 11, Fig. 18. CONICAL CHALCEDONY SEAL with bevelled sides and rounded top, with a mounting of silver, now much corroded, of the same type as the gold mountings of Nos. 108 and 109. The ring at the top consists of a larger ring in the center with a smaller beaded ring on either side. The flat band holding the stone terminates in simplified ducks' bills which reach nearly to the base on either side. They are perforated and hold the pin as in previous examples. On the flat under side is represented in intaglio a winged lion with open mouth advancing to the right. The tail is erect. The paws are represented by a cluster of dots and are too large, otherwise the execution is good. Beneath the feet is a line; in front of the head a crescent moon; above the head an uncertain object resembling a dolphin but which may be a careless attempt to represent a lion similar to the one in No. 113.

No. 4528. T. 27. BELL 28-c. Total ht. 2.9 cm.; engraved face of stone 1.3 cm. \times .9 cm. In the same tomb was found onyx bead No. 54.

111. Pl. 10, Fig. 8; Pl. 11 Fig. 24. CONICAL CHALCEDONY SEAL with rounded top and bevelled sides (eight faces) and with silver mounting as in No. 110 but even more corroded. On the flat under side is carved in intaglio a winged female figure advancing to the left holding by their tails two lions suspended in mid air, one in either hand. The lions hang head downward with their feet against the robe of the woman and their heads turned upward away from her as if snarling at the hands which hold their tails. The wings are short and curve upward one on each side of the shoulders in crescent form. The woman is clad in a long sleeveless robe of some heavy material marked with parallel vertical striations. The upper portion falls in vertical folds to an apoxygma over the girdled waist. Below, the garment is open on one side and has overlapping ends marked by diagonal striations as in the case of the male figure No. 104, Pl. 11, Fig. 20.

No. 4578. T. 348. BELL 72. Total ht. 3.1 cm.; ht. stone 2.2 cm.; length of carved face 1.6 cm.; width 1.15 cm. This type of a woman holding animals (Πότινα θηρών) is common on jewelry of the 7th. century. Cf. MARSHALL.

112. Pl. 10, Fig. 9; Pl. 11, Fig. 9. CONICAL, CHALCEDONY SEAL, with rounded top and eight bevelled faces with a much corroded silver mounting of a different type with a ring for suspending above, and a conical cap fitting over the upper half of the stone. The cap is without ornament except for a raised band around the base. On the under side of the stone is carved in intaglio two moderately well executed winged lions facing with their heads turned backward toward their raised and slightly curved wings.

No. 4525. T. 220. BELL 39. Total ht. 2.3 cm.; length of carved face 1.2 cm.; width .7 cm. In the same tomb were found chain No. 28 and ring No. 96.

113. Pl. 10, Fig. 10; Pl. 11, Fig. 29. CONICAL SEAL of bluish chalcedony with rounded top and bevelled sides and with portion of silver mounting. Of the mounting all that remains is the curved silver strip extending down to the traverse pin which is still attached and in place. The lower ends and the upper ring have been lost. On the flat under side of the stone is engraved in intaglio a winged monster advancing to the right. It has a lion's head with open mouth and projecting tongue. Back from the forehead extends a curved knobbed horn (see No. 100 for curved object in similar position). The tail branches into three divisions. The fore-legs are similar to those of the lion on No. 110 with over-large paws made of two clusters of dots. The hind-legs have smaller feet with double spurs above. Beneath the feet is a line. In the field in front are three small superimposed circles.

No. 4642. T. 611 (museum label has 601). BELL 114. Present ht. 2.4 cm.; length engraved face 1.5 cm.; width 1.05 cm.

114. Pl. 10, Fig. 11; Pl. 11, Fig. 5. CONICAL SEAL of rock crystal with rounded top and eight bevelled sides and fragment of a conical cap mounting similar to that of No. 112. (In Fig. 11 is also shown the upper silver ring of the mounting of another seal which is now lost). On the lower face of the crystal is engraved in intaglio a human headed, bearded, winged, seated sphinx facing the right with a head dress apparently of feathers. Facing the sphinx is a seated, winged lion with open mouth. Below the feet are two parallel lines.

No. 4579. T. 5 (A) according to museum label. It is not mentioned in BELL's catalogue. Total ht. 2.9 cm.; ht. of crystal 2.1 cm.; length of engraved face 1.65 cm.

115. Pl. 10, Fig. 12; Pl. 11, Fig. 30. CONICAL, CHALCEDONY SEAL, with rounded top and with bevelled sides (eight faces) with a corroded mounting of silver as in No. 111. The upper ring is missing. On the under surface is engraved in intaglio a winged lion with open mouth advancing to the right. The tail is erect. The details are much as in No. 110 but there are no symbols.

No. 5134. T. 1005. Not mentioned in BELL's catalogue. Total ht. 2.6 cm.; length of engraved face 1.5 cm. In the same tomb was found seal No. 120.

116. Pl. 10, Fig. 13; Pl. 11, Fig. 11. CONICAL CHALCEDONY SEAL with rounded top and bevelled sides. The mounting is missing. Engraved in intaglio on the convex under side is a bearded male standing to the left grasping the throat of a large lion which rears up before him and has one leg resting on the ground, the other three feet are held against the body of the man. The tail of the lion is erect. The man has a round cap from behind which the hair appears in a large mass with a round end. He is clad in a very heavy robe reaching only to above the knee. It is belted at the waist and has a row of short horizontal lines (lacings?) down the front. Below, the legs are enclosed in full trousers in Persian style. The left arm extends downward behind and holds a sword. Between the legs of the lion and the man is a symbol resembling a crescent moon with a projection from the inside curve.

No. 4589. T. 371. BELL 86. Ht. 2.1 cm.; length of engraved face 1.6 cm.; width 1.2 cm. In the same tomb were found the gold fragments and beads No. 19 and seal No. 117.

117. Pl. 10, Fig. 14. CONICAL SEAL of glass paste of lapis-lazuli effect with rounded top and bevelled sides. The mounting is lost and the under surface is too corroded to determine whether it once had an intaglio or not.

No. 4592. T. 371. BELL 87. Ht. 2 cm.; lower face 1.25 cm. \times 1.05 cm.

118. Pl. 10, Fig. 15; Pl. 11, Fig. 6. CONICAL SEAL of carnelian with rounded top and bevelled sides (eight faces). The mounting is missing. Engraved in intaglio on the under side is a bearded male figure to the left kneeling on left knee and holding a drawn bow in front ready to shoot at a large lion which rears up at some distance with body to the right but with head turned away. Beneath the feet is a line. The man wears a round cap with a flat top, from behind which the hair falls to the shoulder in a rounded mass. His short robe is of some heavy material marked with diagonal striations. The advanced right leg is bare. Below the man and lion is a symbol of uncertain meaning (see Pl. 11, Fig. 6), possibly a tripod.

No. 4591. T. 364. BELL 79. Ht. 1.9 cm.; engraved face 1.3 cm. \times 1 cm.

119. Pl. 10, Fig. 16; Pl. 11, Fig. 28. SMALL CONICAL SEAL of chalcedony with rounded top and bevelled sides (eight irregular faces). The mounting has been lost. In intaglio on the under side is represented a bearded male figure standing to the left and seizing with the right hand the throat of a winged lion which stands on its hind legs facing the man and holds its fore paws against his body. The man is clad in a long belted robe of some heavy material indicated by vertical striations and reaching below the knees. On his head is a feather crown (Cf. No. 114 for similar crown), from behind which the hair falls in a rounded mass to the shoulder.

The left arm extends downward behind the back and holds a short sword. On the forehead of the lion is apparently a projection intended to represent a horn (Cf. No. 113). Beneath the feet is a line.

No. 4527. T. 22. BELL 6. Ht. 1.7 cm.; engraved face 1.4 cm. \times 1.1 cm. In the same tomb were found beads Nos. 29 and 56.

120. Pl. 10, Fig. 17; Pl. 11, Fig. 8. LARGE CONICAL SEAL of bluish chalcedony with several flaws. The stone is of the usual form with rounded top and bevelled sides. The mounting is not preserved. On the under side in intaglio of rather inferior technique is represented a male figure with long pointed beard standing to the left and holding one hand toward a winged sphinx with griffin-like head with open mouth crouching on a pedestal. The man has long curly hair and beard and is clad in a long belted robe reaching nearly to the feet with a deep band of fringe around the bottom. The wing of the griffin is straight. The pedestal has a high undecorated upper and lower moulding with, between them, a section marked with vertical ribs. Above the wing of the griffin is a symbol resembling a hatchet. In the field above between the two figures is a winged sun disk with a long fan-shaped tail below.

No 5133. T. 1005. BELL 163. Ht. 2.9 cm.; intaglio 2.3 cm. \times 1.5 cm. In the same tomb was found seal No. 115.

121. Pl. 10, Fig. 18; Pl. 11, Fig. 14. LOW CYLINDRICAL SEAL of agate (?) with corroded silver mounting of heavy wire consisting of a large ring (1.1 cm. outside diam.) for suspension, from which extend two heavy wires which clasp the sides of the stone and terminate in thickened portions. On the upper side of the stone are also two short lateral projections. The stone has vertical sides, a slightly rounded top and has engraved in intaglio on the under side a combat between a lion and a bull. The bull, to the left, has been forced to its knees and has its head thrown up and back with the mouth open and tongue projecting as if it were in pain. The head of the lion (to the right) appears from behind the neck of the bull and seizes its back in its teeth. One hind leg of the lion is on the ground, the other raised with the paw pressing against the bull's breast. The lion's tail is curled up and forward. Beneath the feet of both animals is a line. In the field above the bull's head is a sun disk with a row of dots around the rim and one larger dot in the center. To the right is a crescent moon. Above the bull's back appears the top of a floral ornament or palmette. The stone has the usual cross perforation with holding-pin between the arms of the mount.

No. 4523. T. 18. BELL 18. Total ht. 2.4 cm.; ht. of stone 1 cm.; diam. 1.75 cm. From the same tomb came gold band No. 13, chain No. 42, pendant No. 50, earrings Nos. 60 and 82 and seals Nos. 121 and 123.

122. Pl. 10, Fig. 19; Pl. 11, Fig. 27. CHALCEDONY SEAL, nearly cylindrical, slightly broader at the top than at the bottom, with rounded top. It is perforated but the mounting is lost. On the bottom is engraved in intaglio of inferior execution a she-goat to the right with, beneath to the left, a suckling kid. On the back of the goat stands a large bird to the left with its head turned backward to face the goat's head. The carving is poor with various rounded surfaces with little modelling or detail. The subject was common in antiquity. Cf. Richter No. 12.

No. 4590. T. 327. BELL 48. Ht. 1.4 cm.; diam. engraved face 1.5 cm.

123. Pl. 10, Fig. 20; Pl. 11, Fig. 25. OVAL SEAL, of some dark mottled stone with nearly perpendicular sides, increasing slightly in diameter from the base to the rounded top. It is perforated for a mounting which is now missing. In intaglio on the under side is a bearded male figure seated to the right on a high backed chair with his feet on a foot-stool. He wears a head-dress marked above by a row of short vertical lines possibly to indicate the feather crown better represented on Nos. 114 and 119. The hair falls to the shoulder from behind the head-dress in a rounded mass. He is clad in a long robe reaching the feet and holds in one outstretched hand an object resembling a globe and in the other some uncertain object. The back of the chair, the cross brace between the legs and the legs below the cross brace are represented by dotted lines. At the top the back of the chair curves over behind.

No. 4524. T. 18. BELL 19. Ht. .85 cm.; greatest diam. of engraved face 1.45 cm. In the same tomb were found gold band No. 13, chain No. 42, pendant No. 50, ear-rings Nos. 60 and 82 and seal No. 121.

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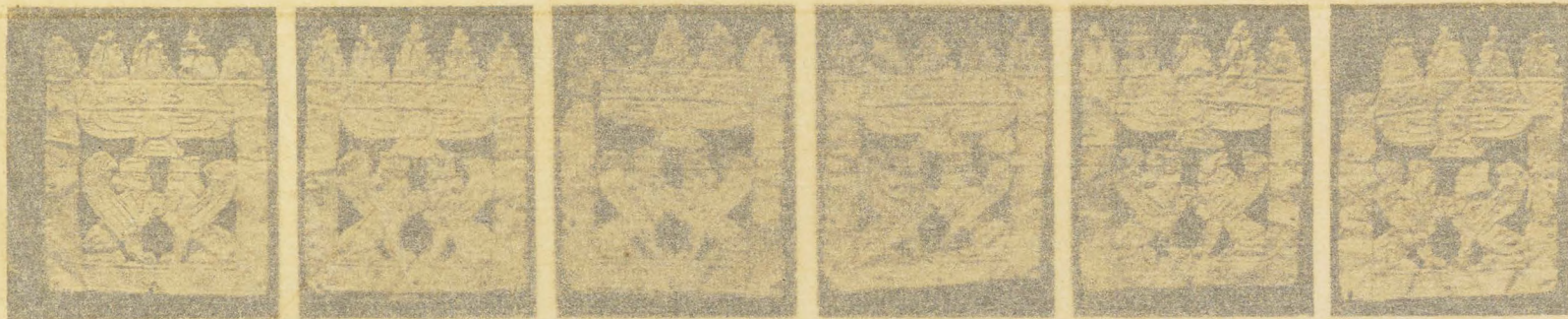
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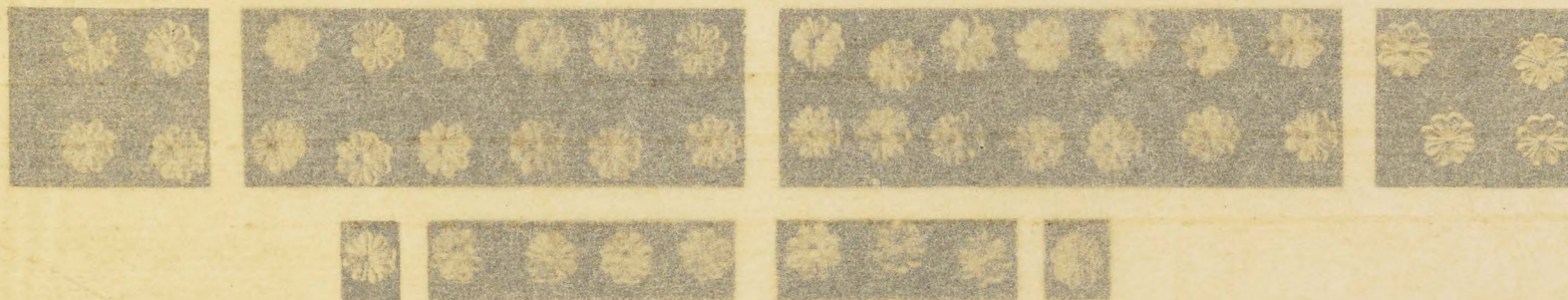
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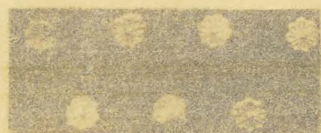
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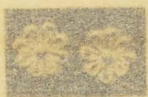
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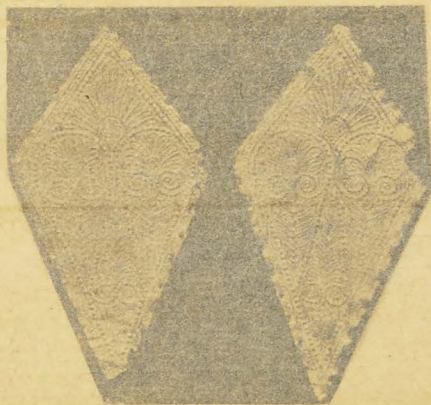
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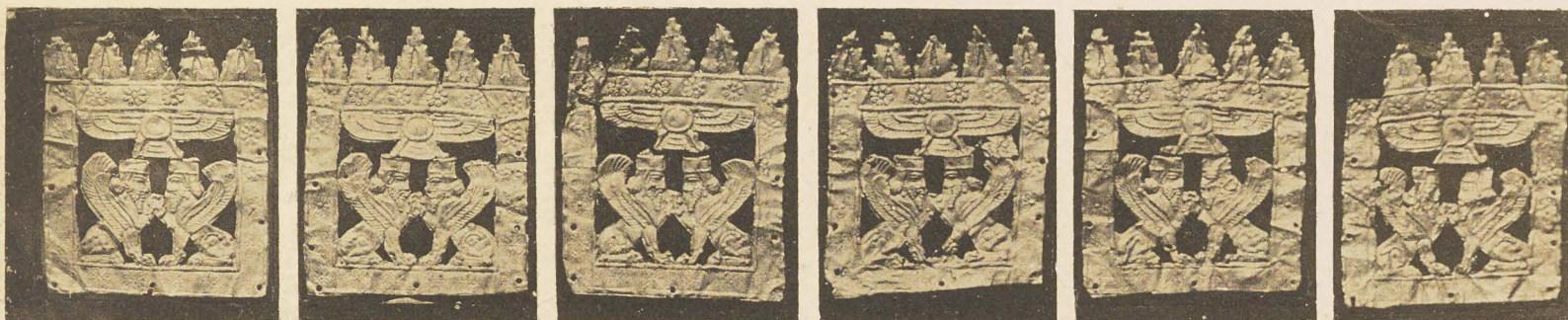
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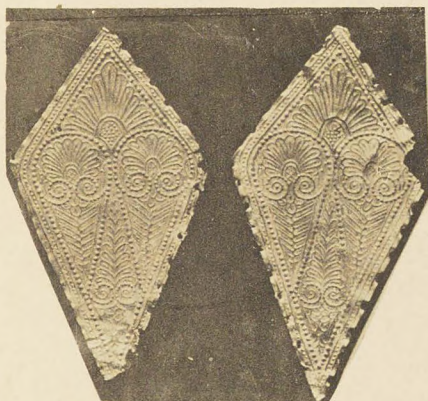
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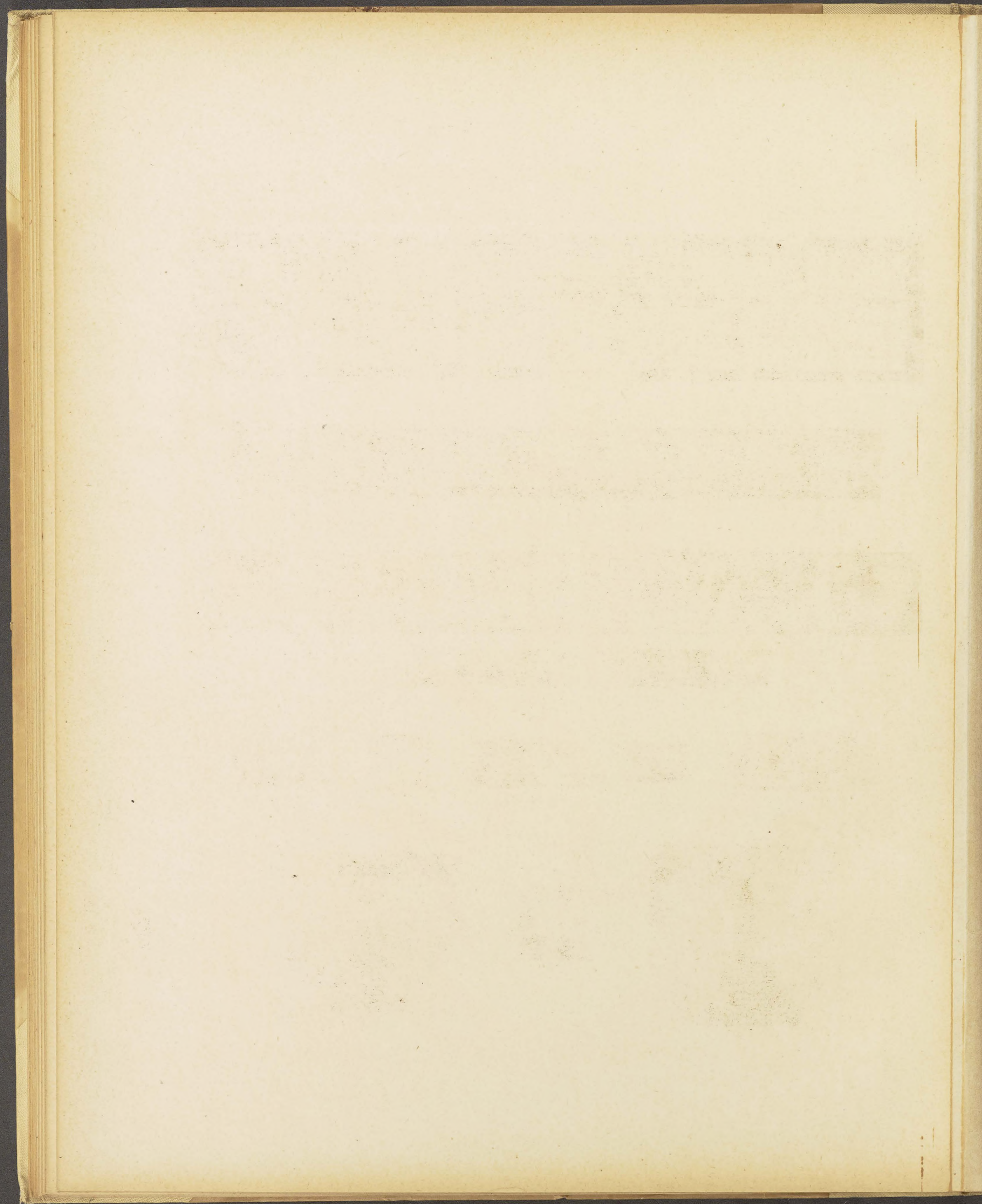




Fig. 1. No. 14



Fig. 2. No. 15



Fig. 4. No. 16



Fig. 3. No. 13



Fig. 6. No. 15



Fig. 5. No. 17



Fig. 9. No. 22

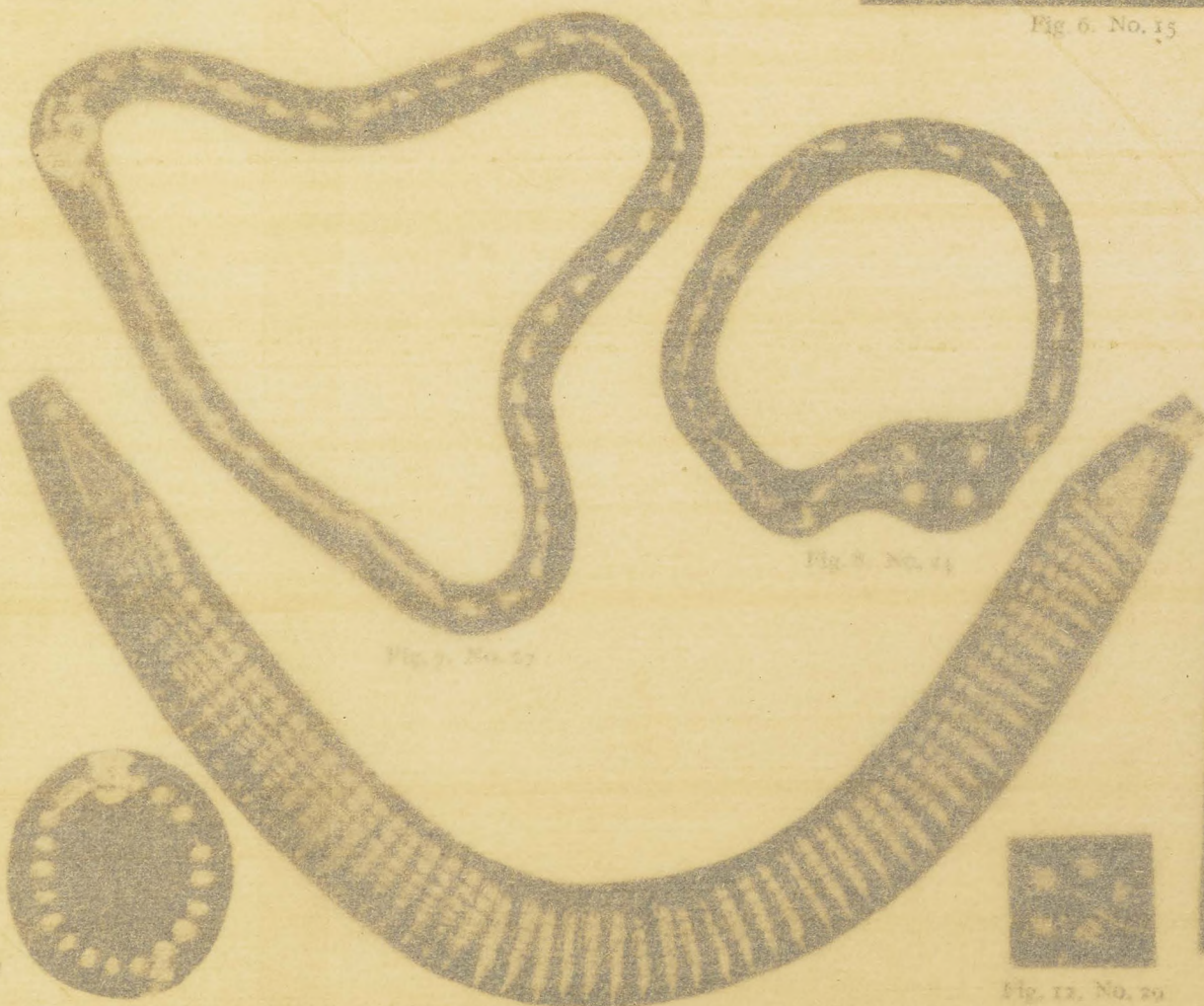


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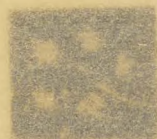


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Fig. 13. No. 21

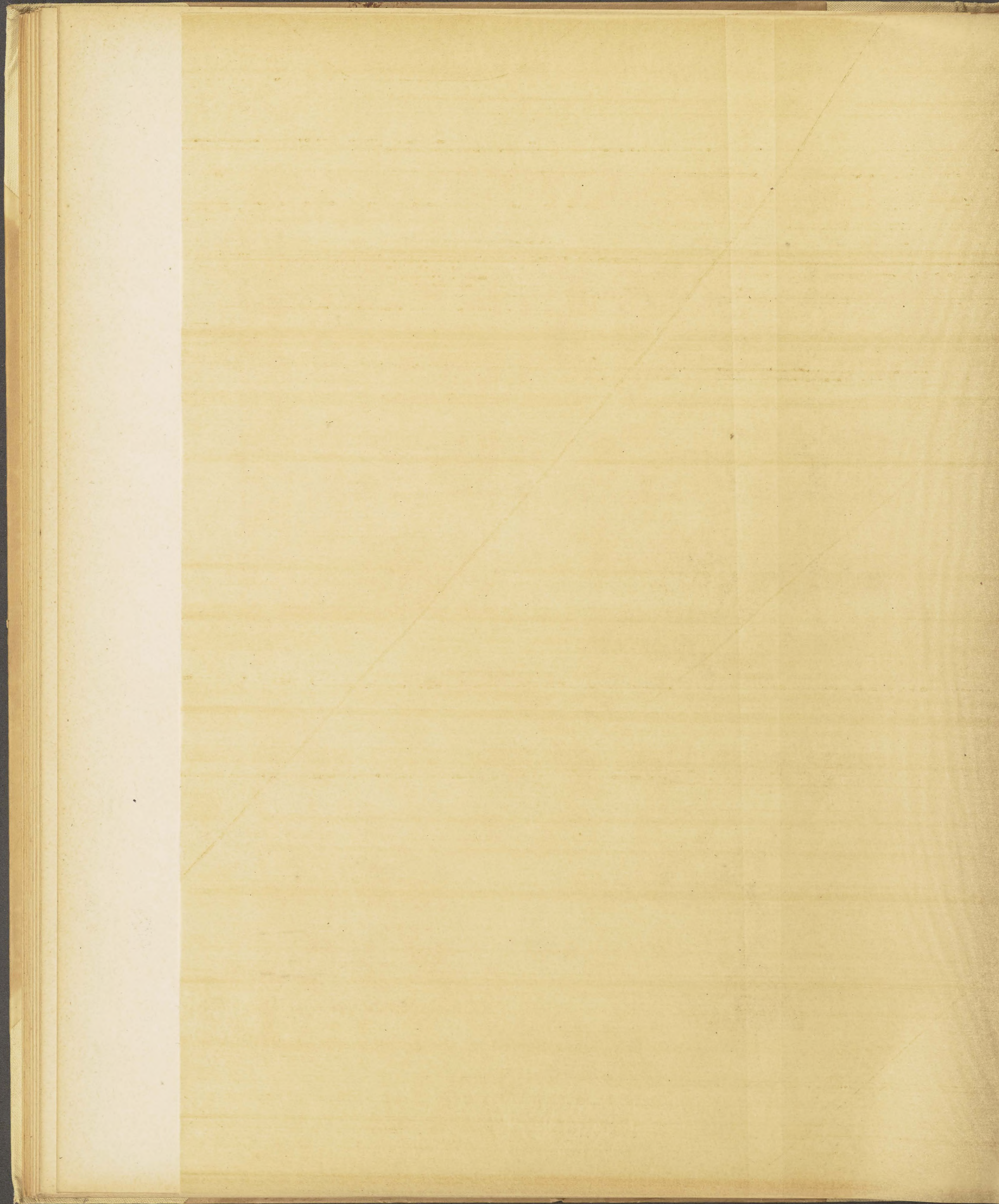




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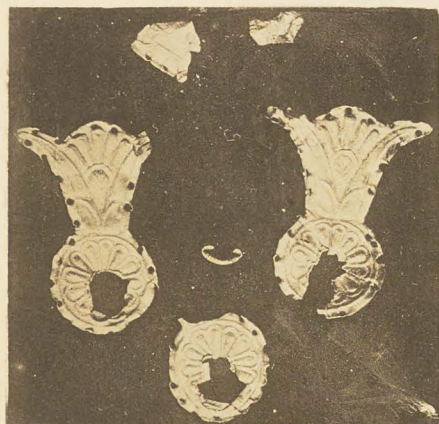


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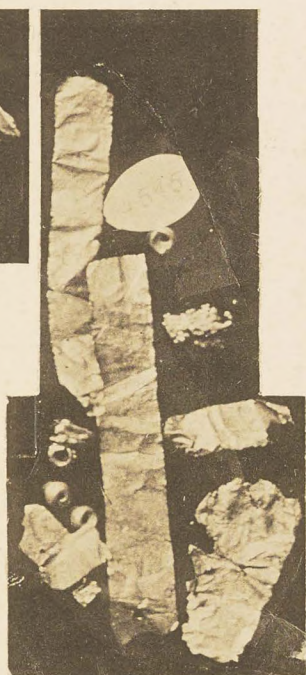


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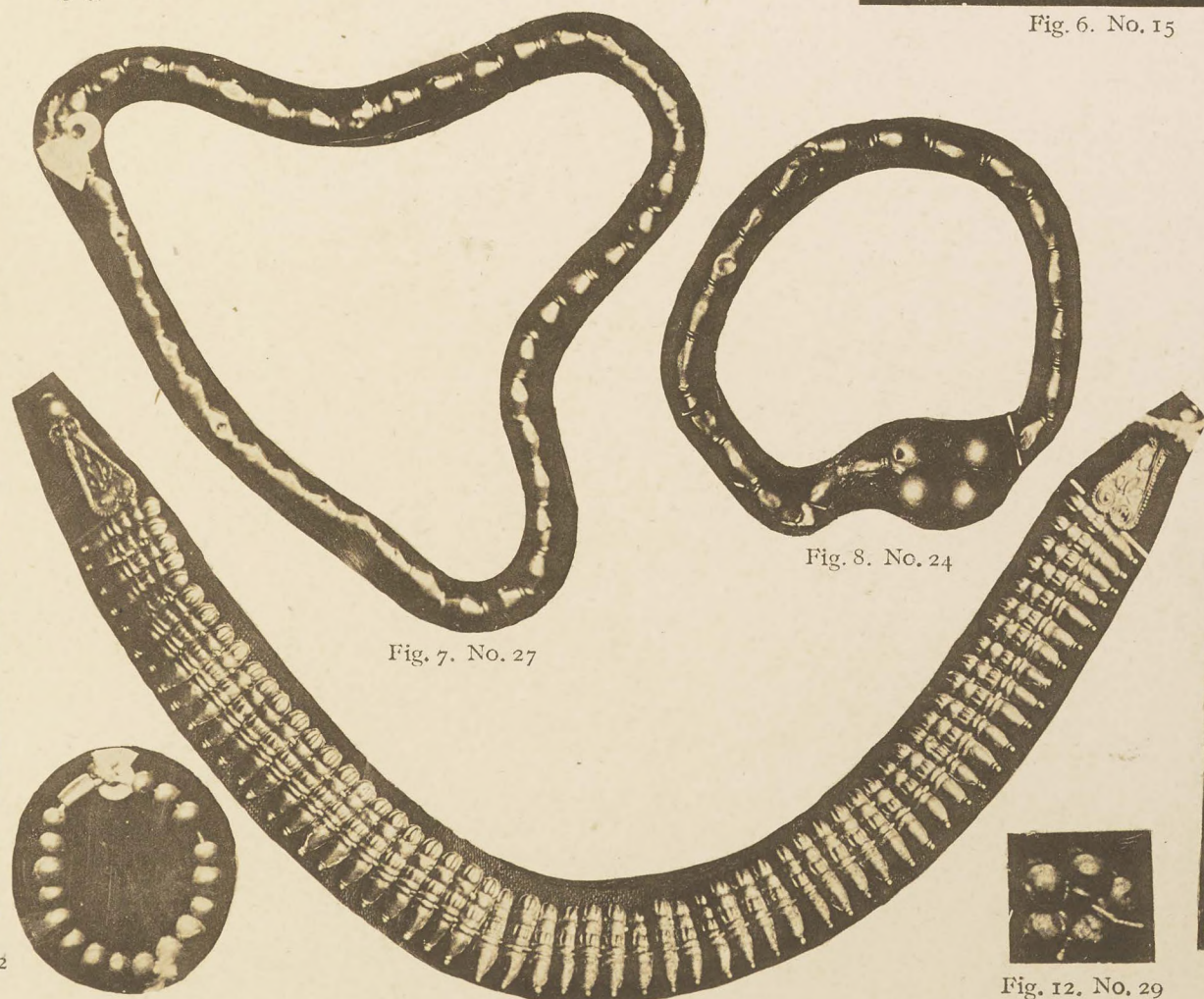


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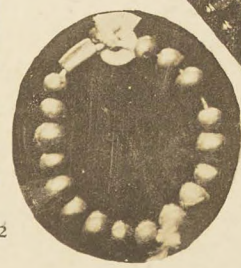


Fig. 10. No. 28

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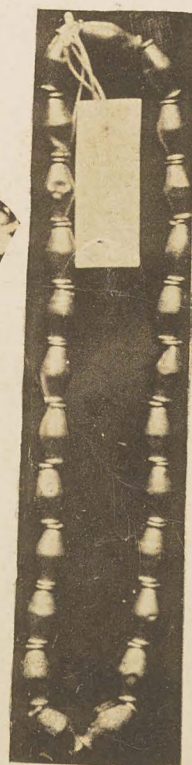
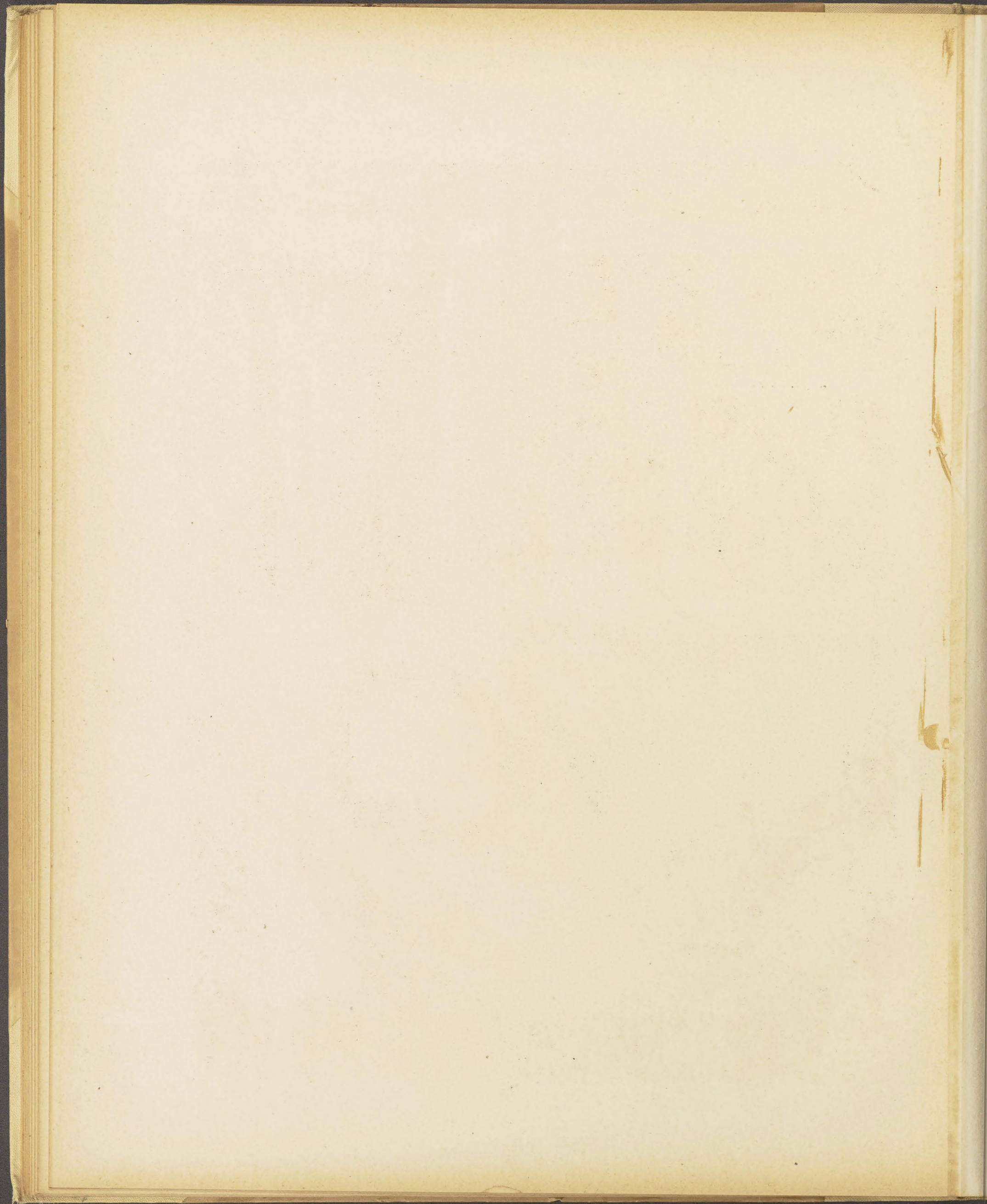


Fig. 13. No. 21





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5. No. 36



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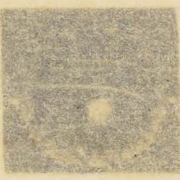
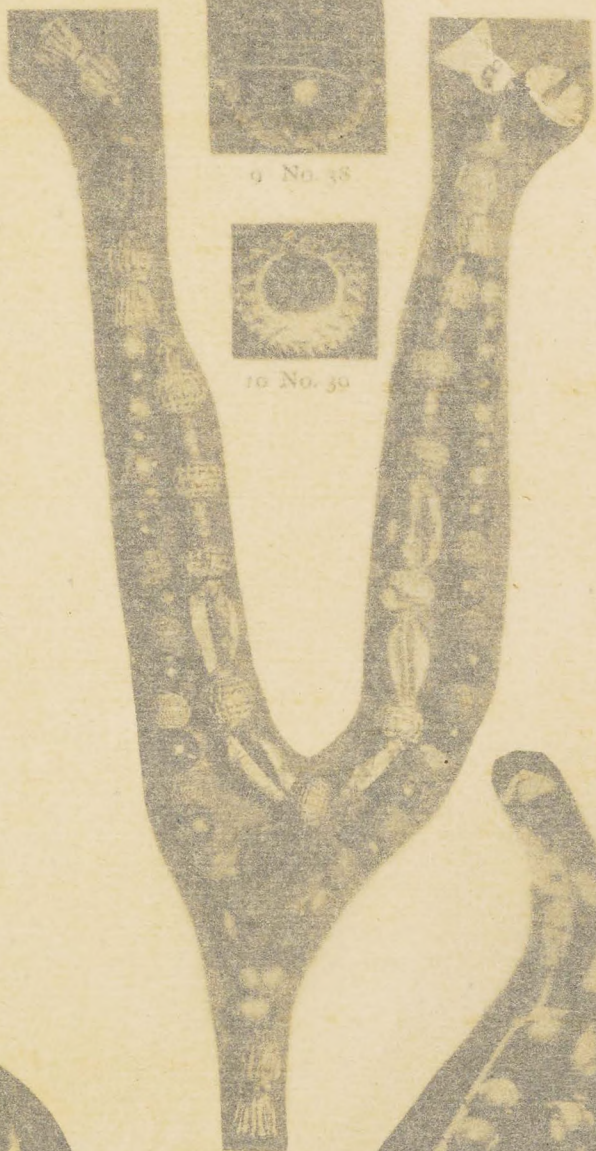
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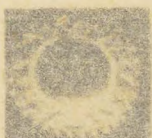
Fig. 8. No. 34



Fig. 2. No. 32



9. No. 38



10. No. 39

Fig. 3. No. 33



Fig. 11. No. 42

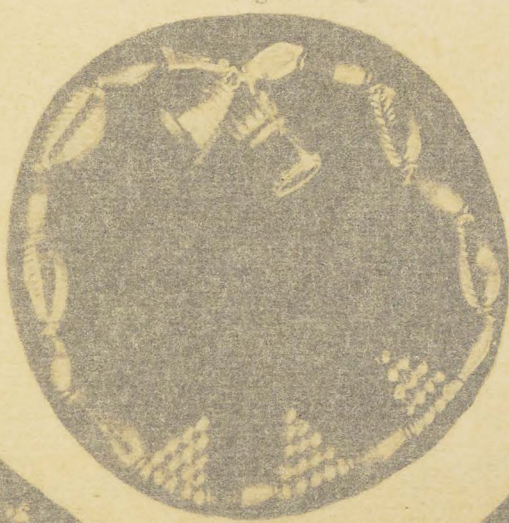


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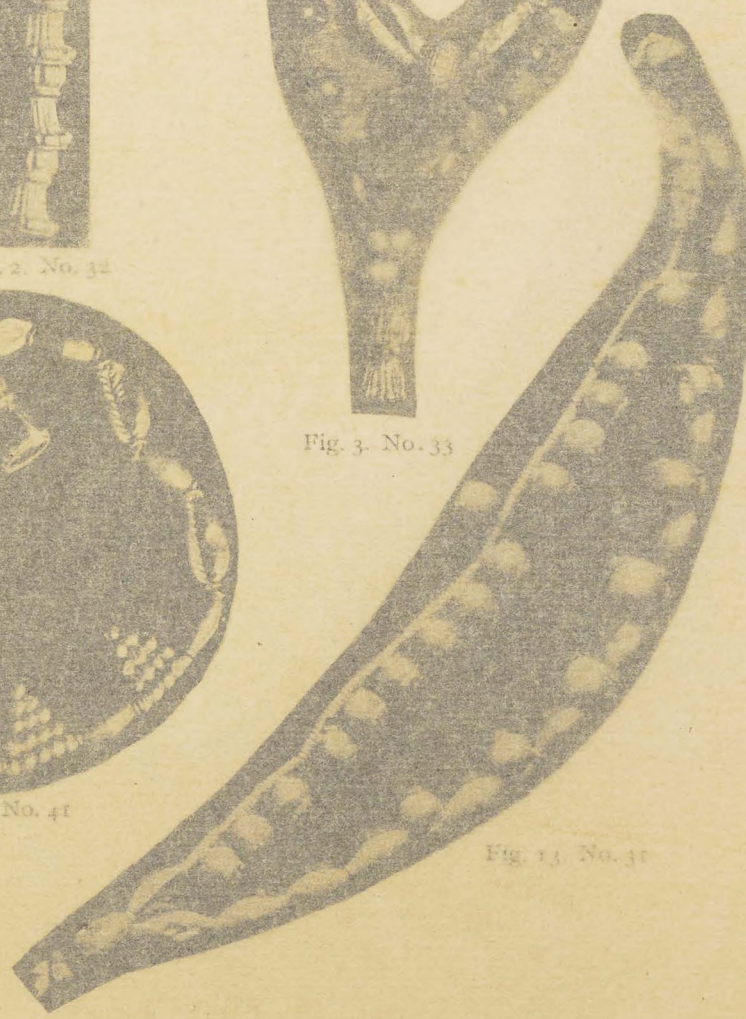
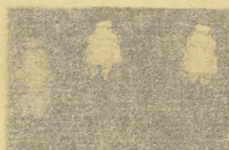


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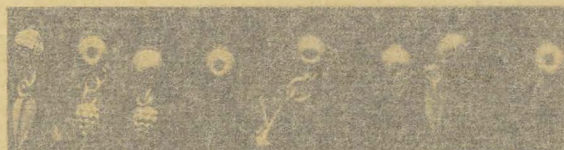
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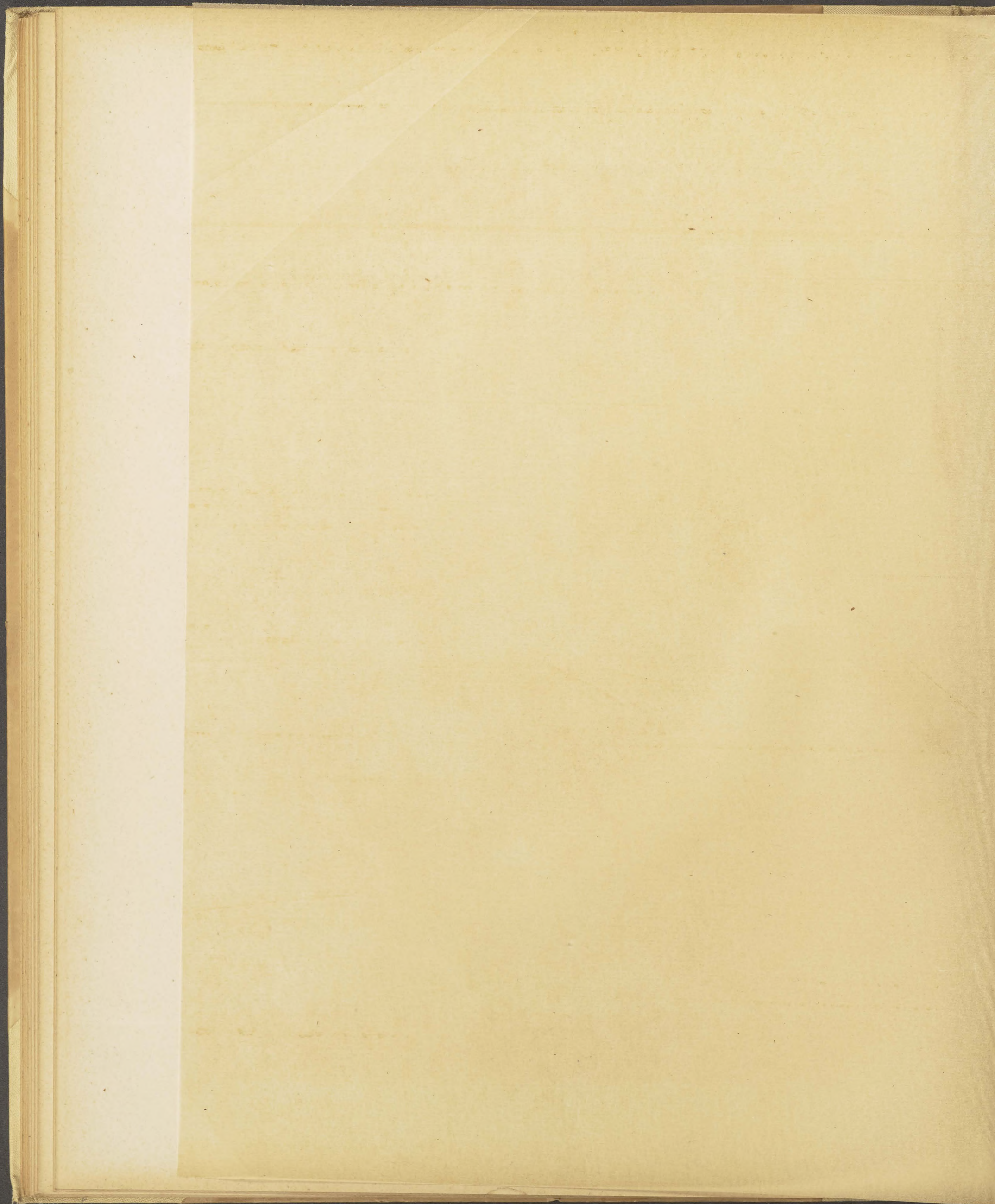
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Fig. 14. No. 26



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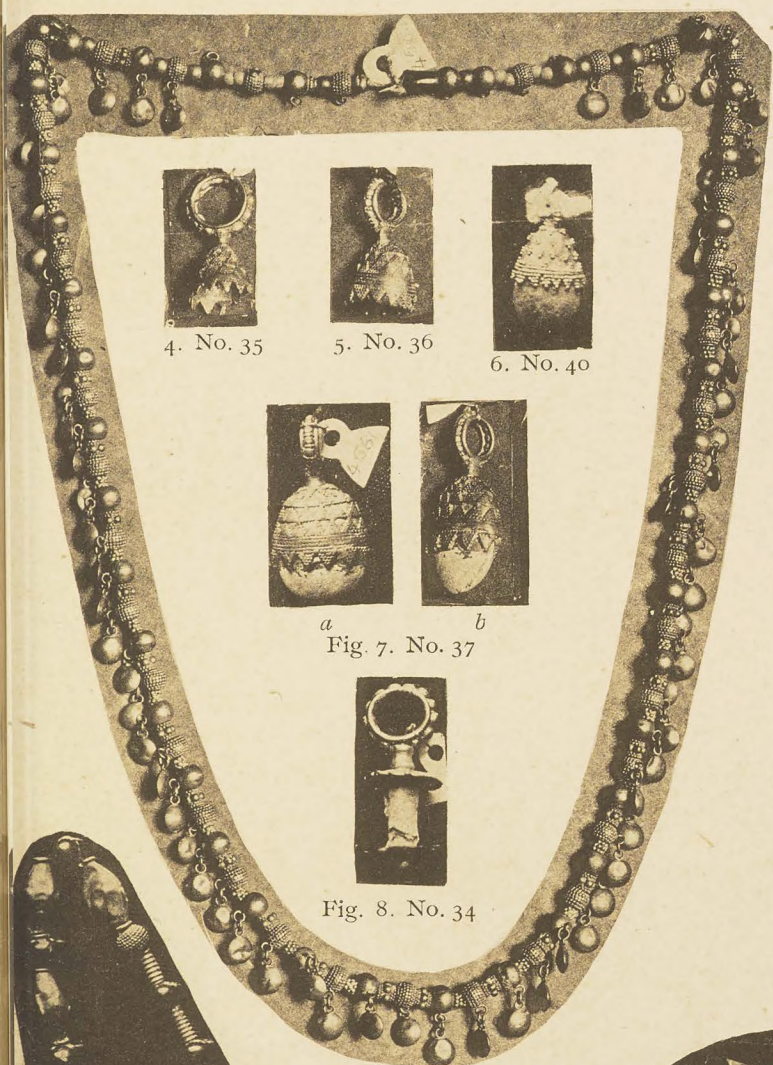


Fig. 1. No. 25



Fig. 2. No. 32



Fig. 3. No. 33



Fig. 11. No. 42

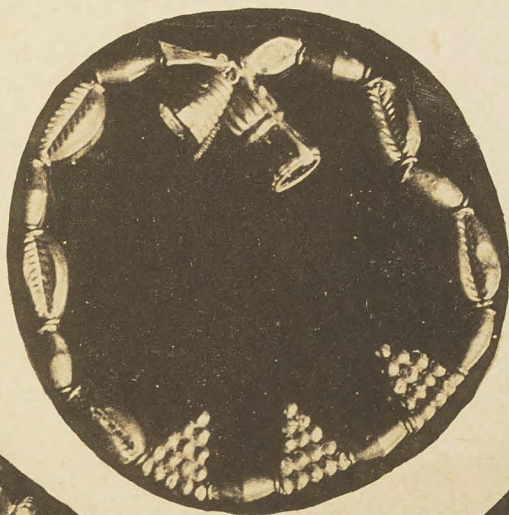


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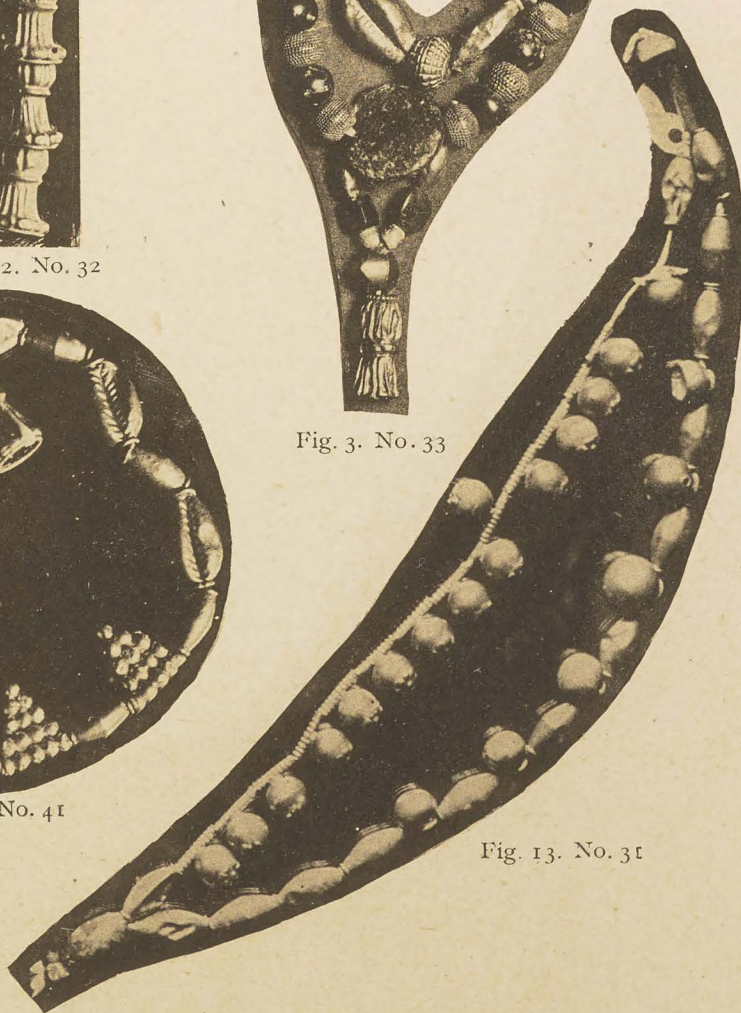
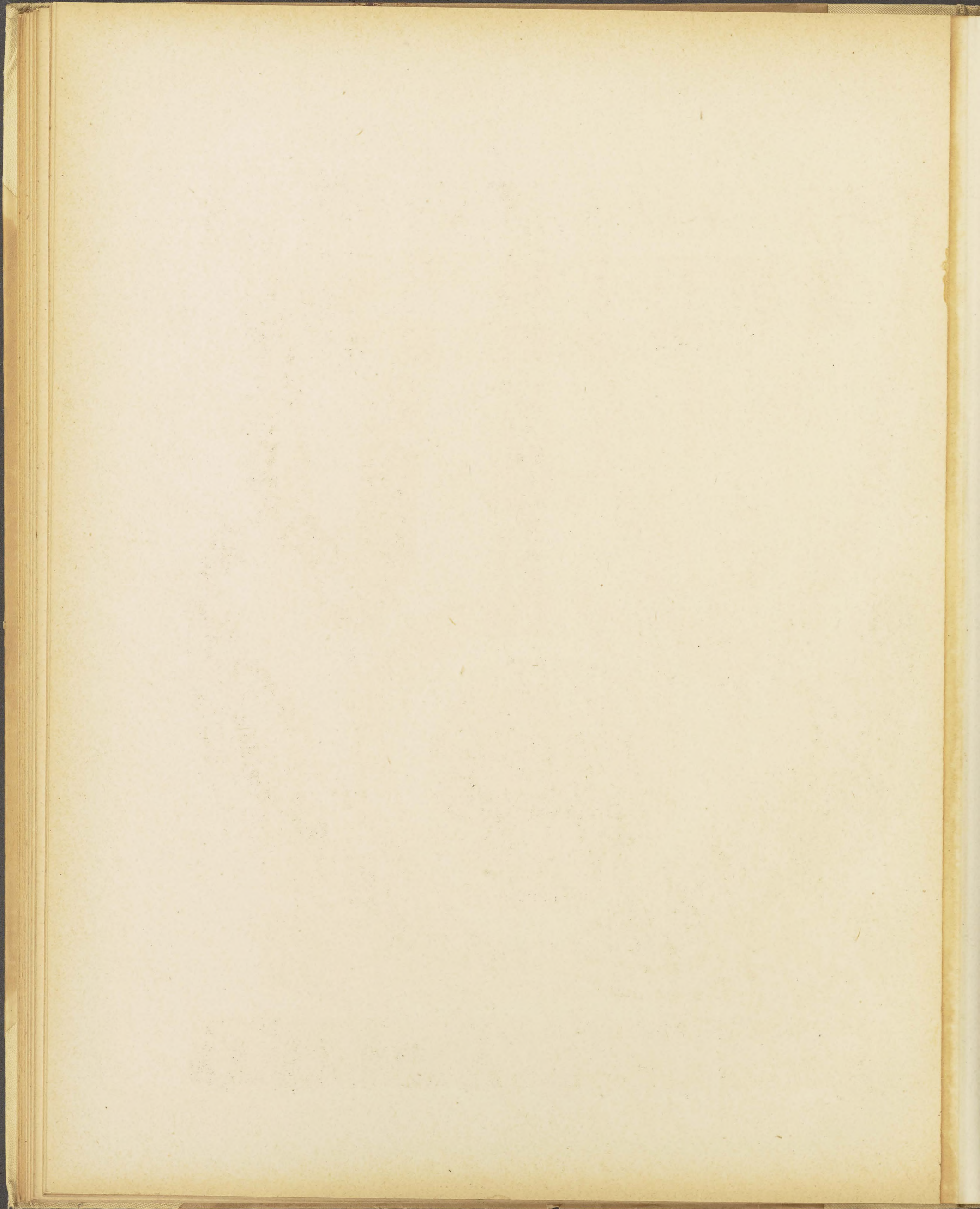


Fig. 13. No. 31



Fig. 14. No. 26



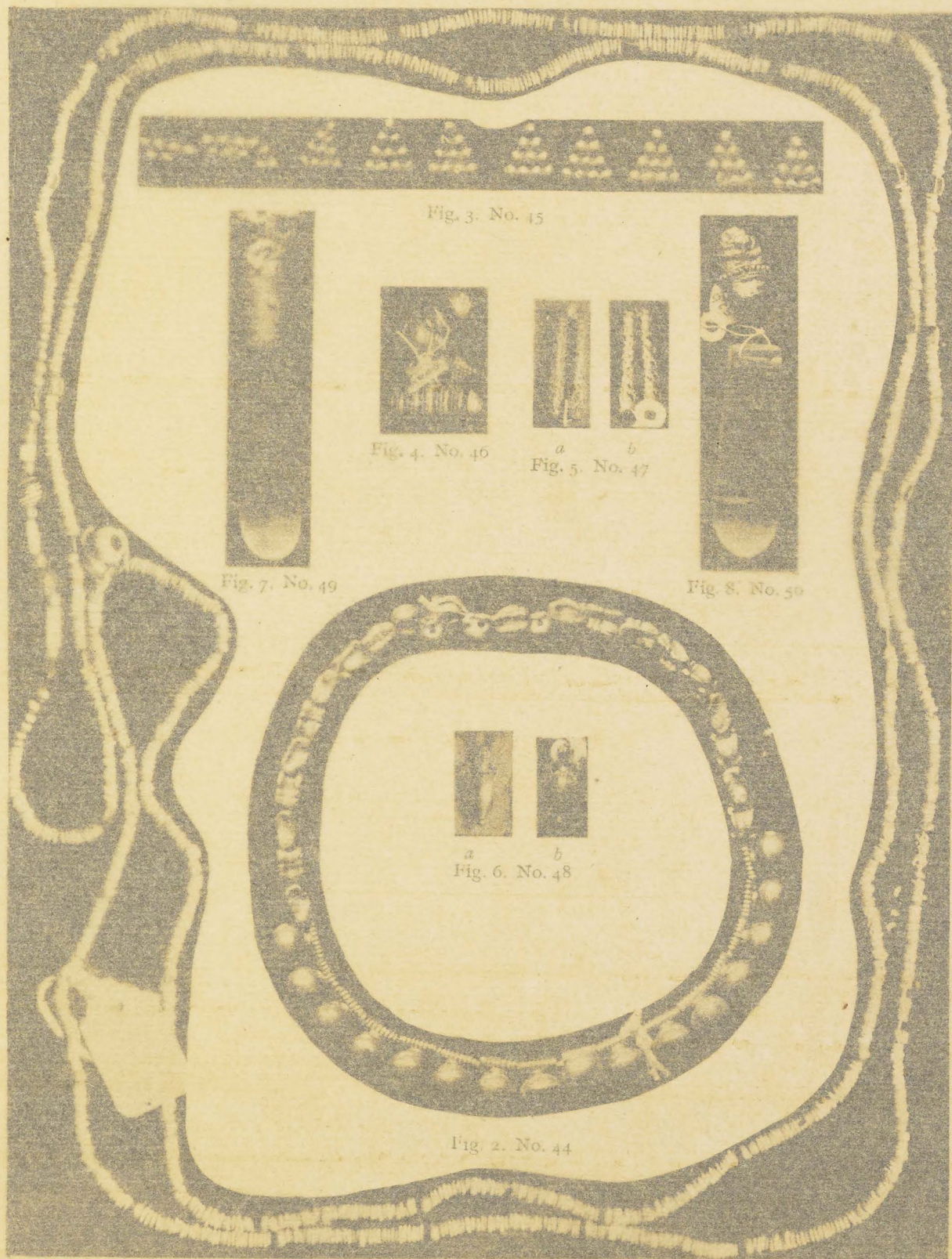
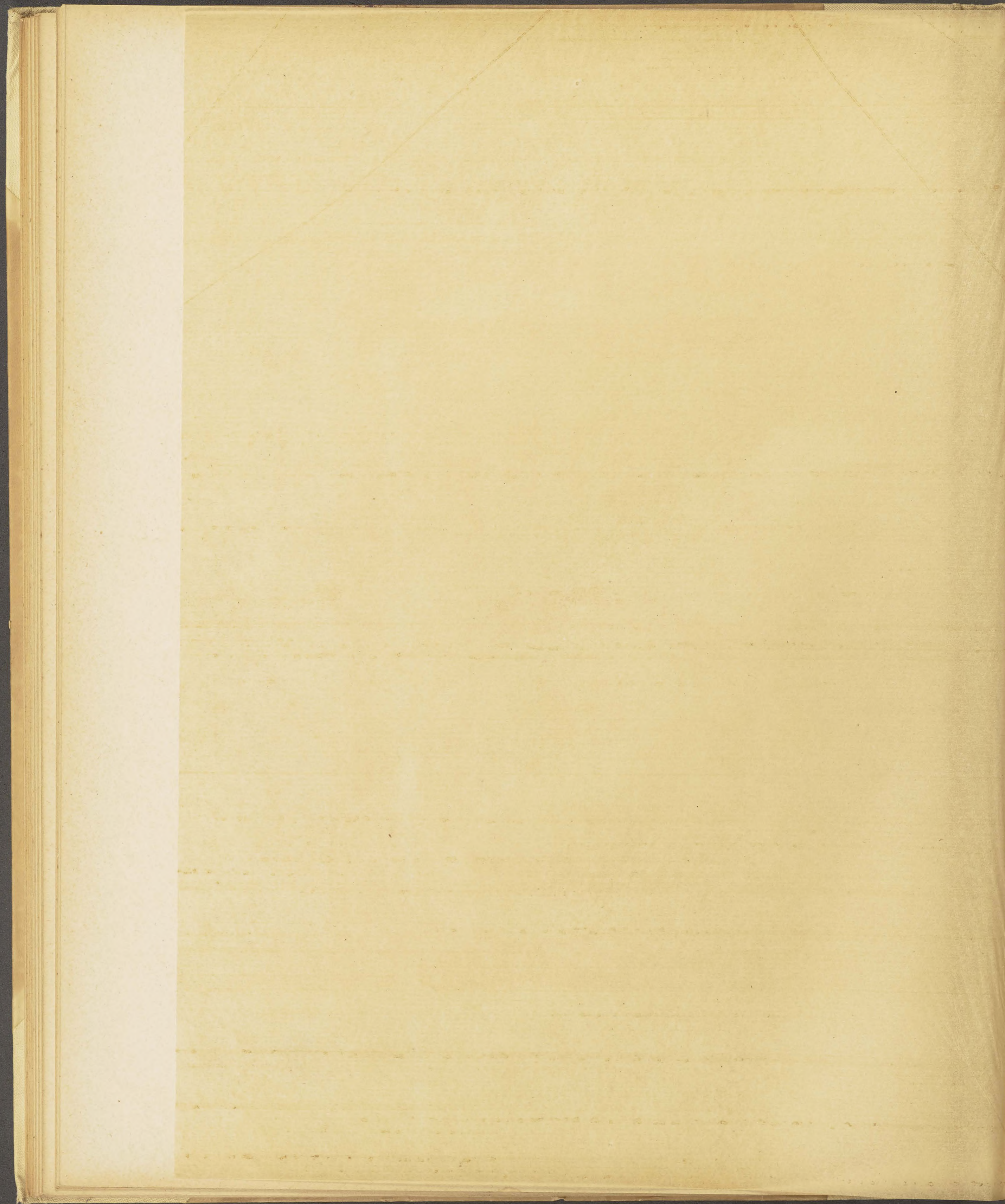
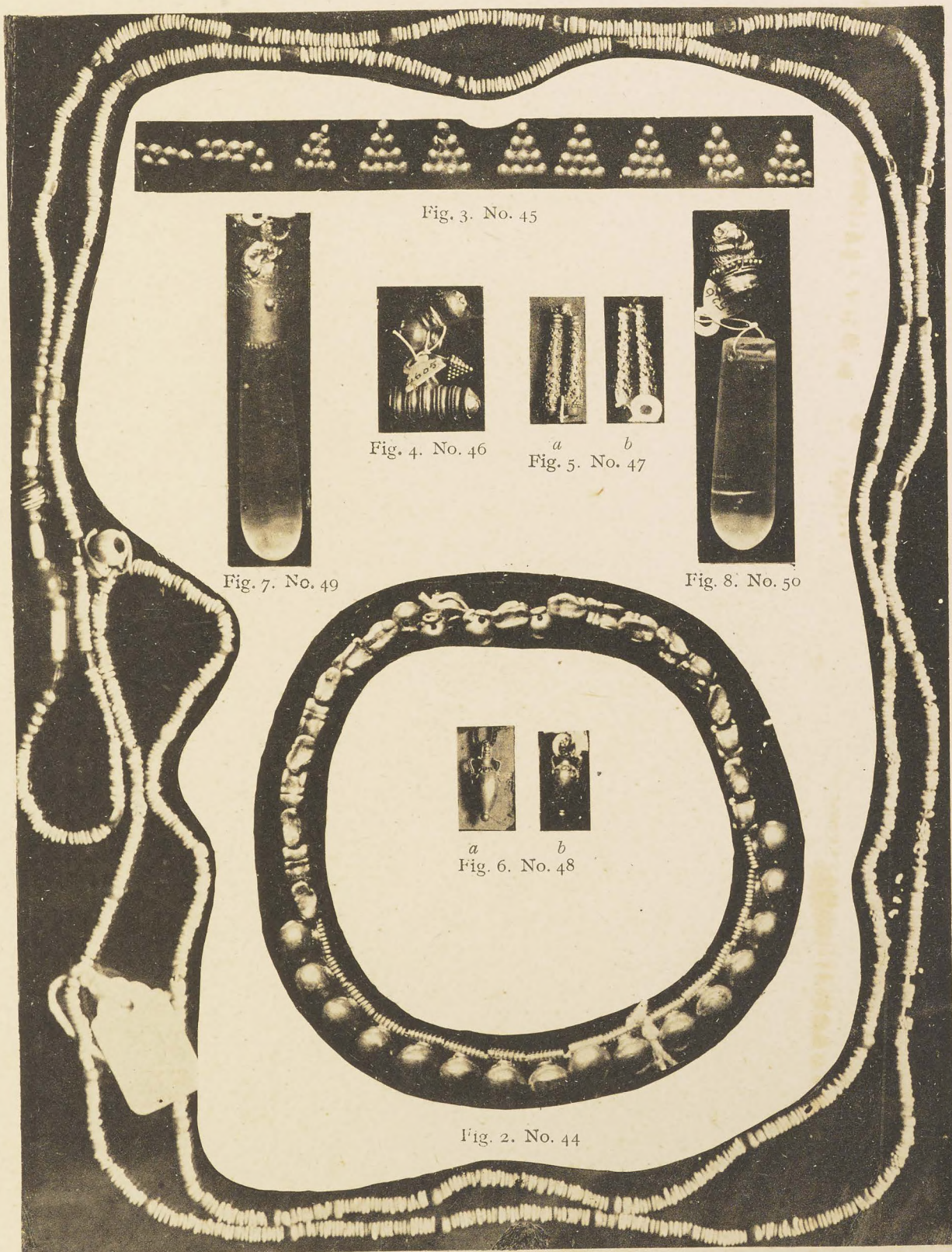
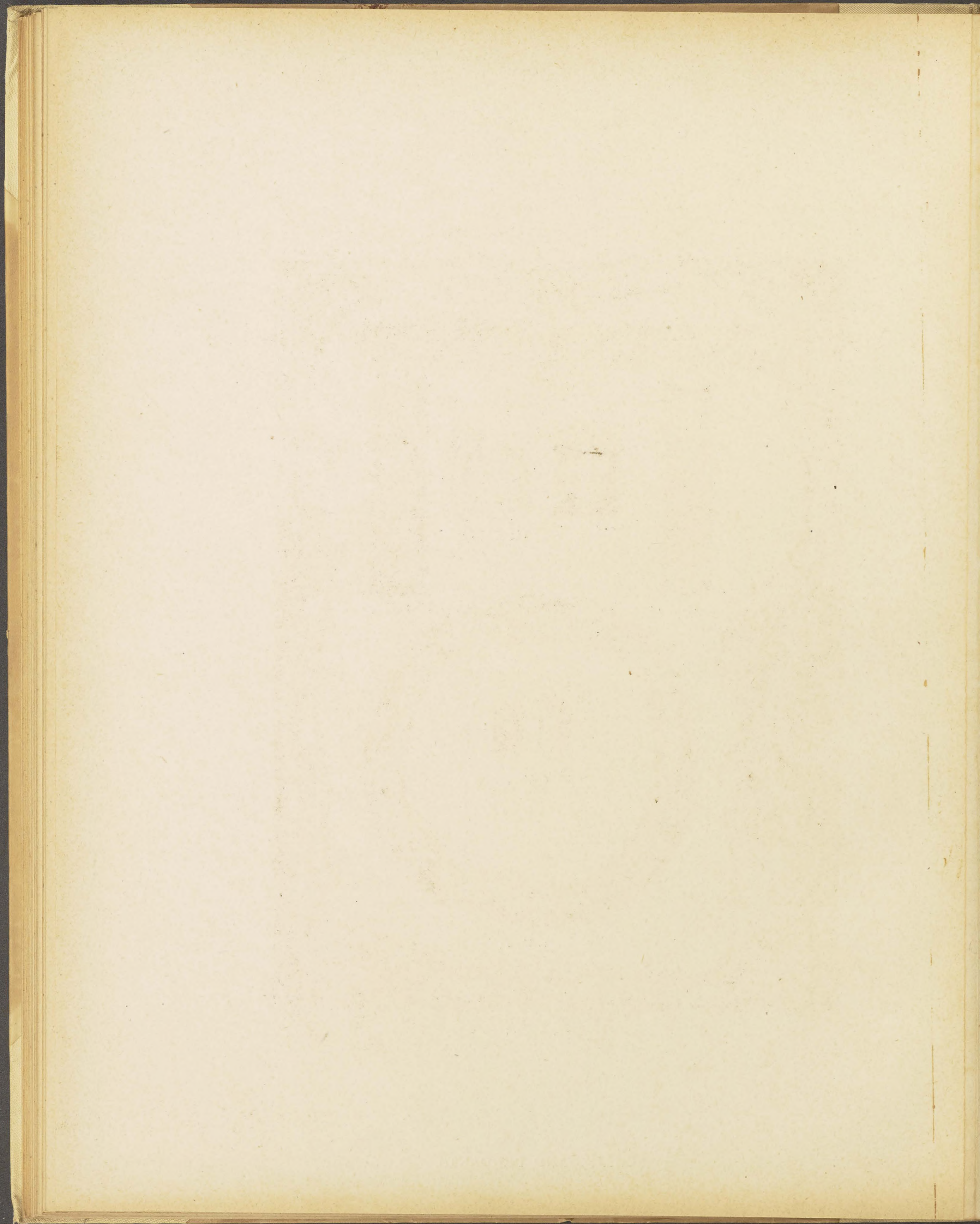
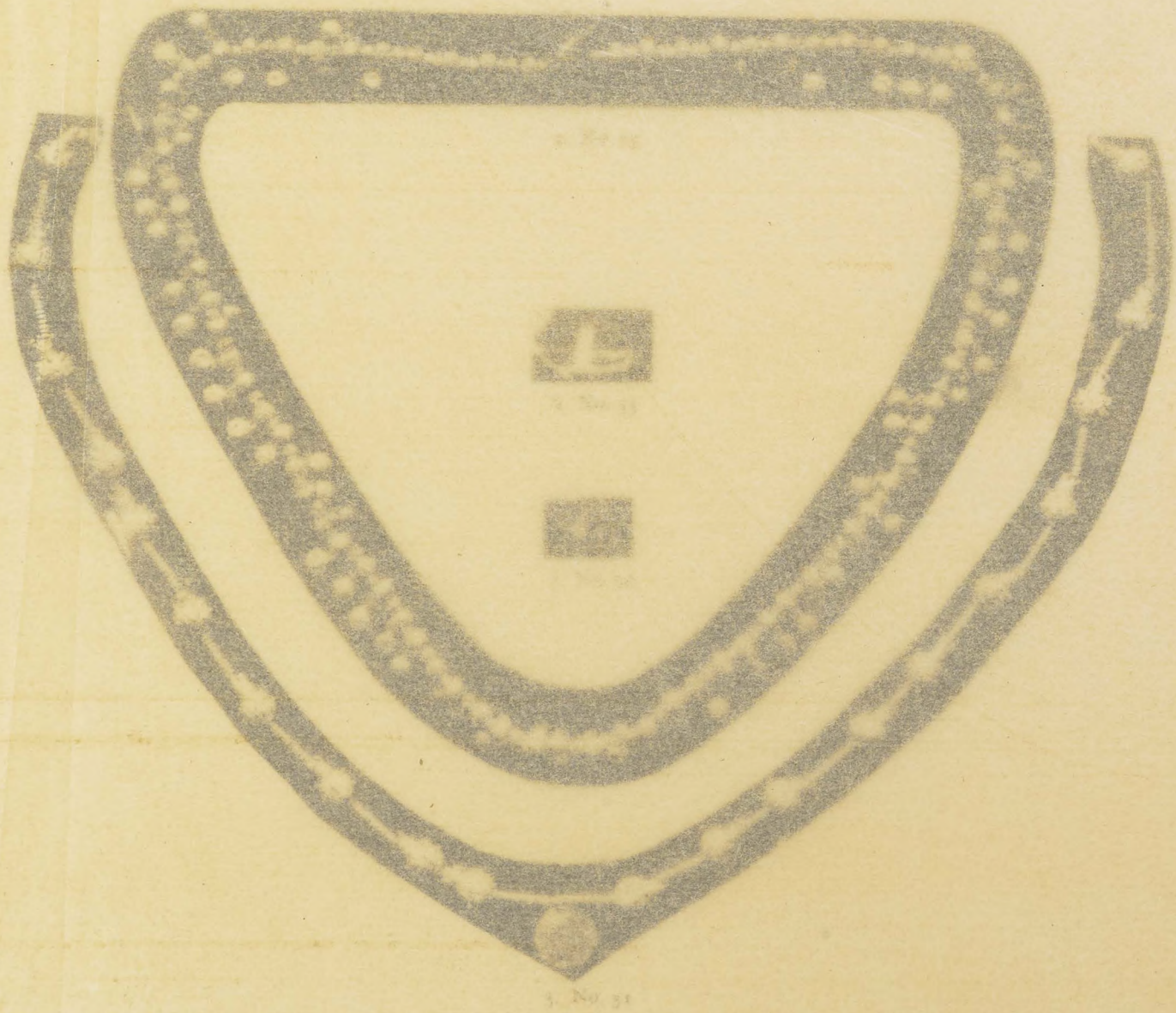
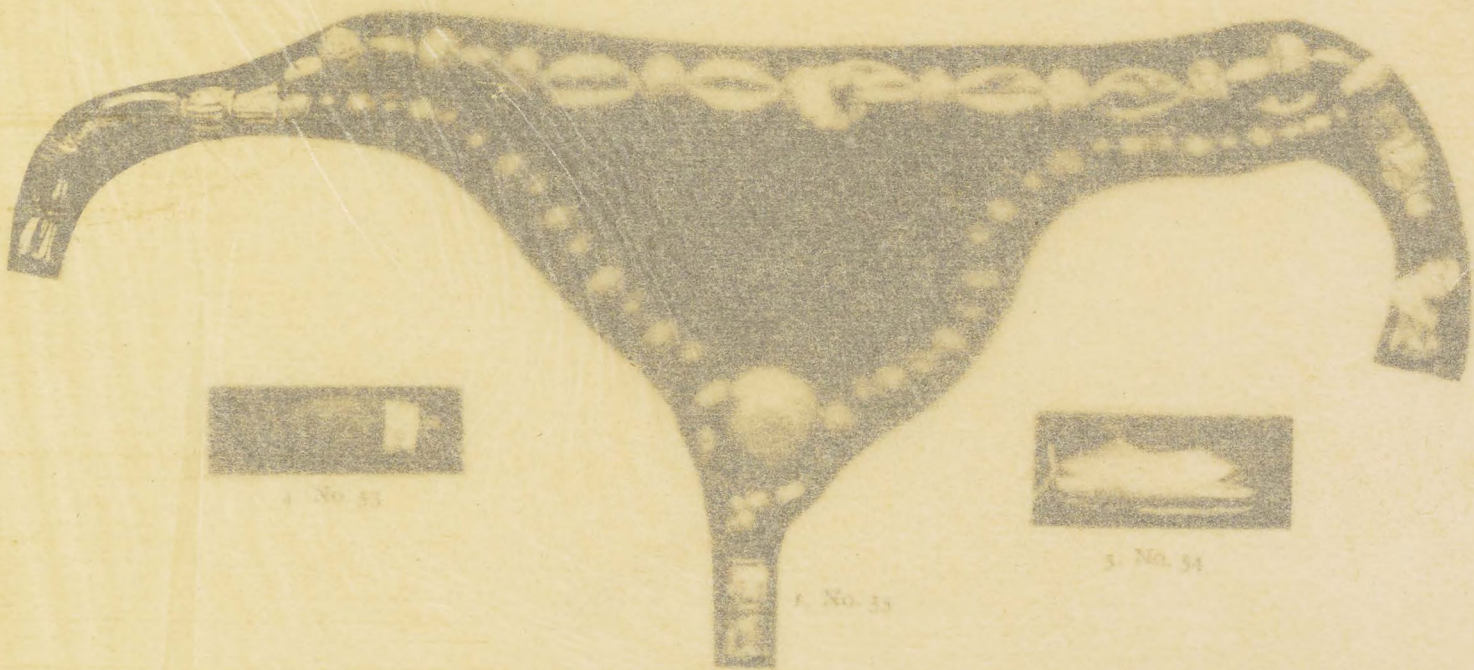


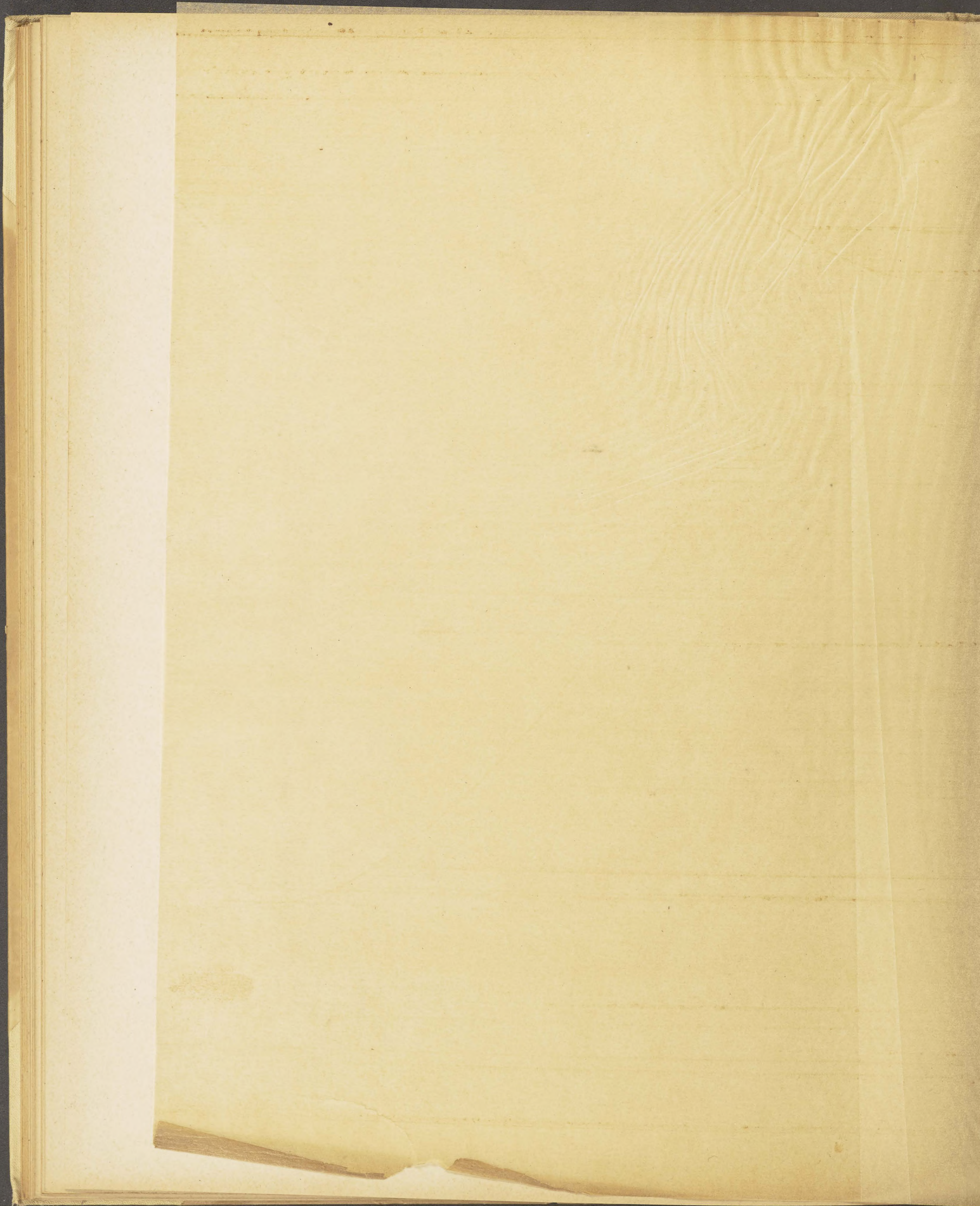
Fig. 1. No. 43

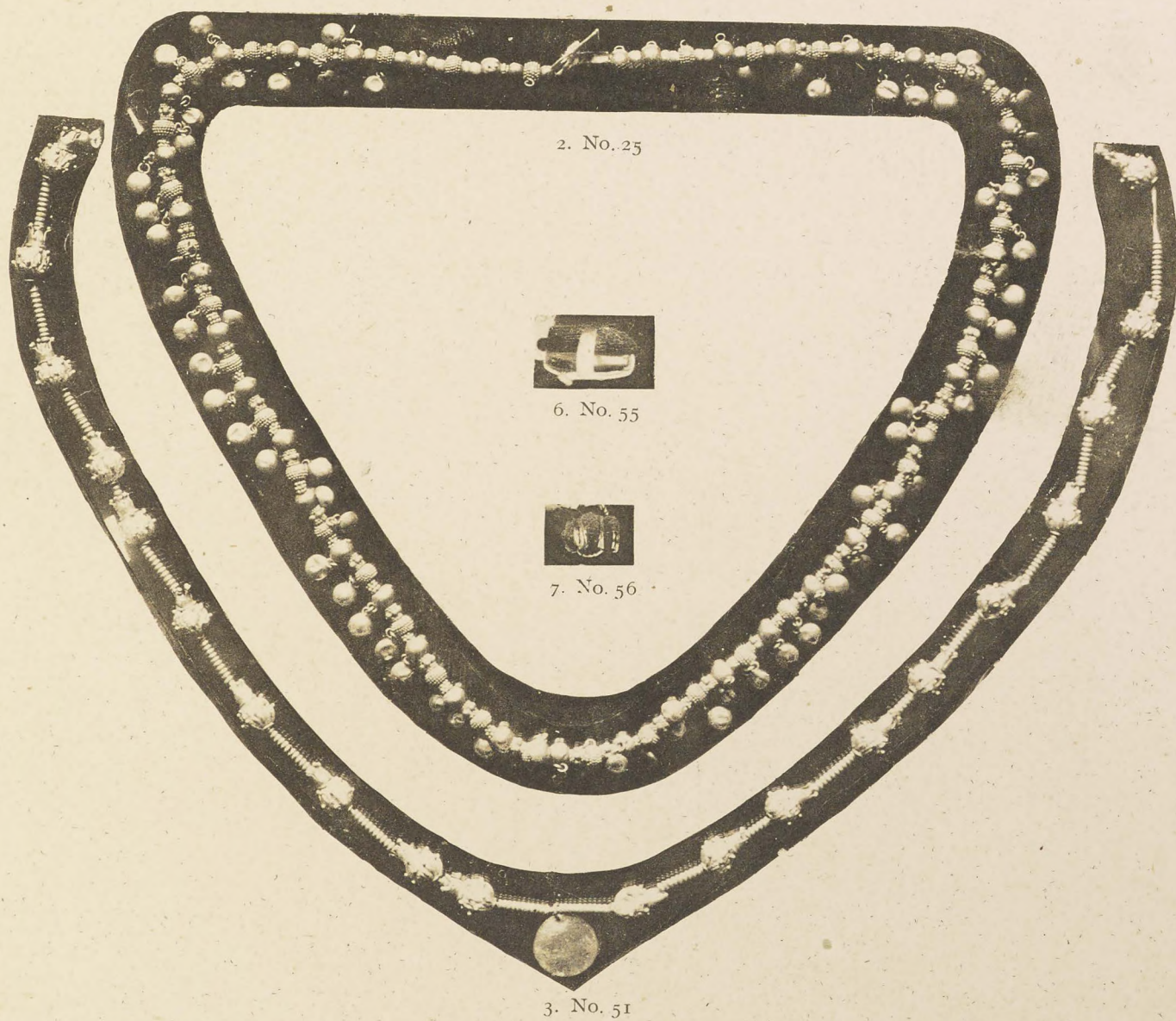
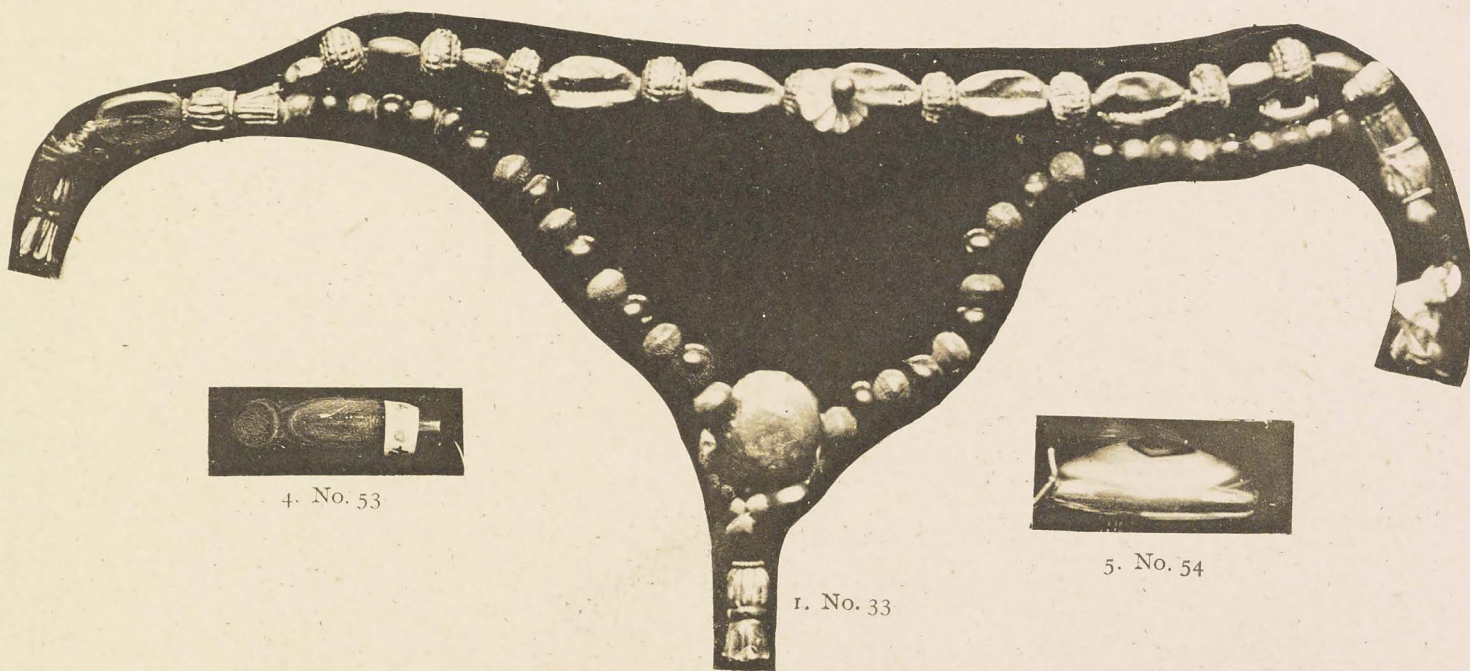


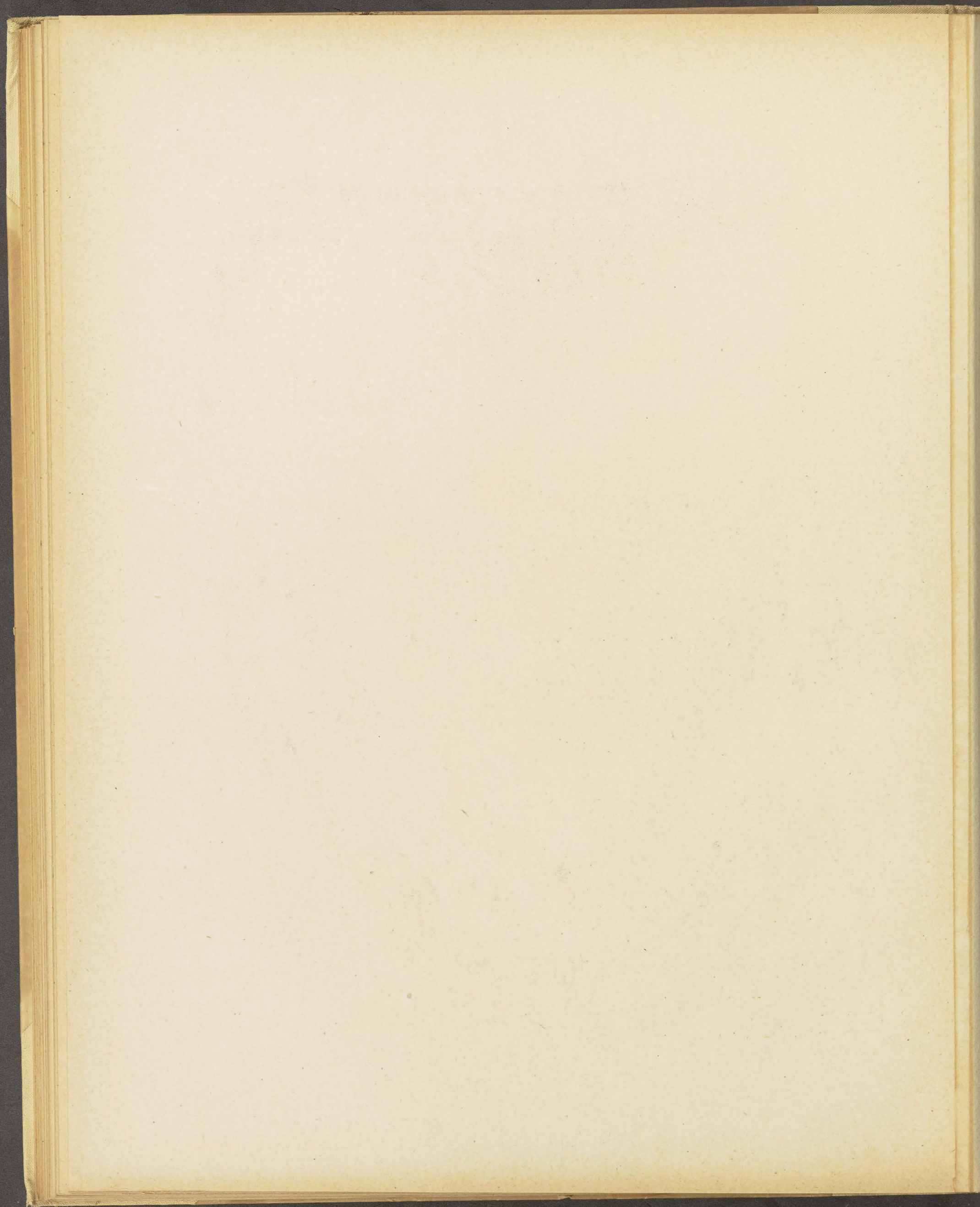


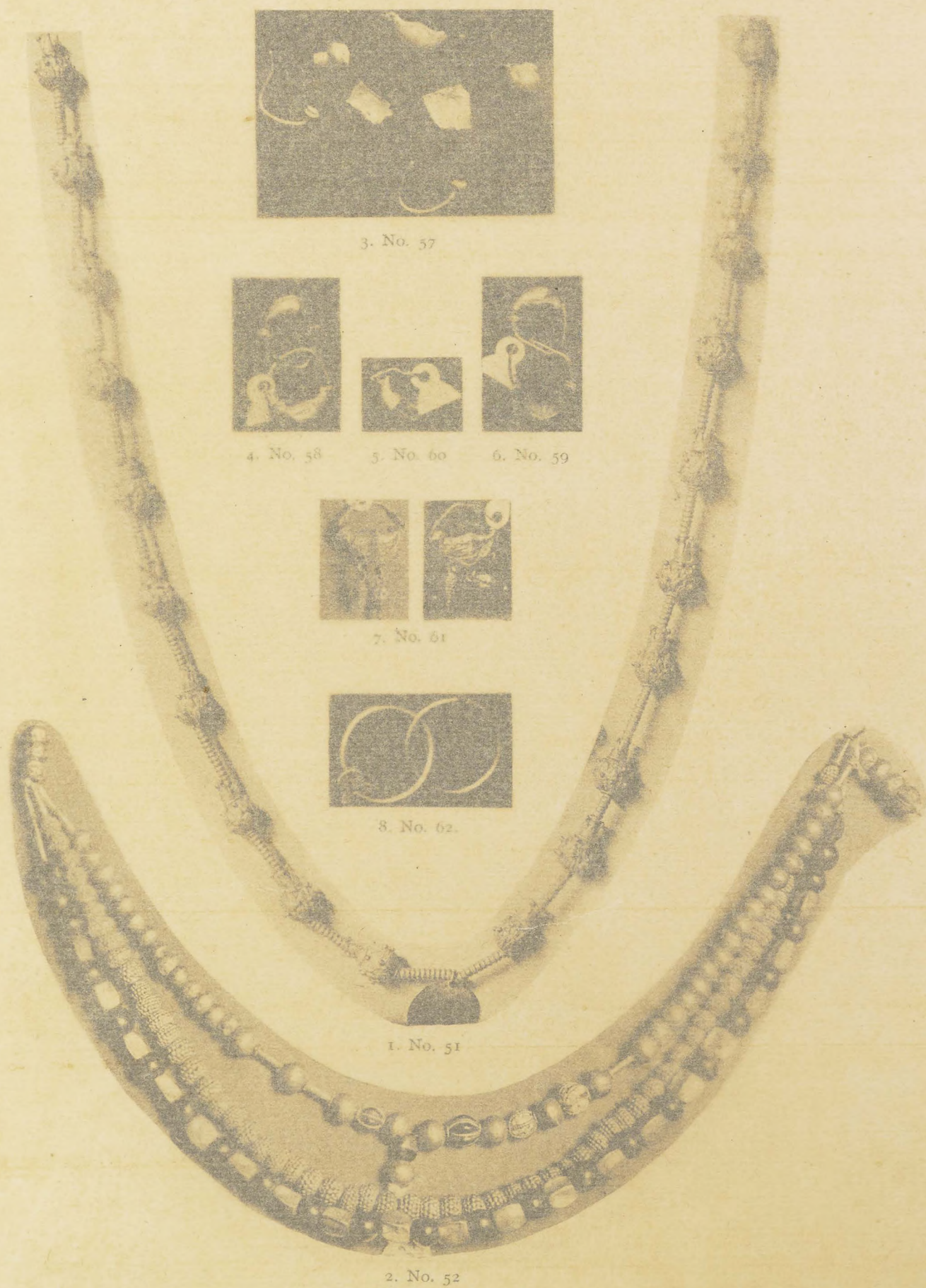


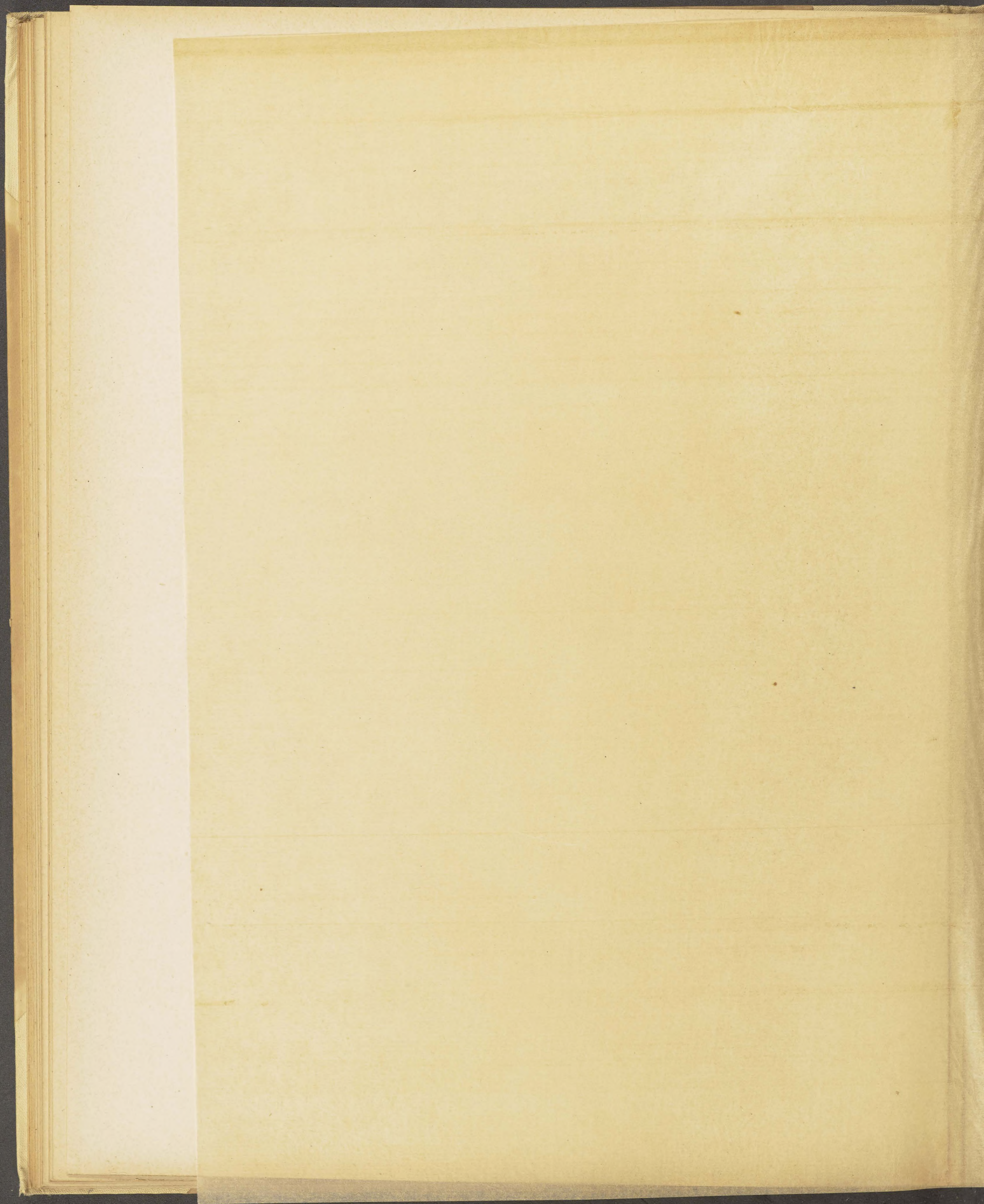






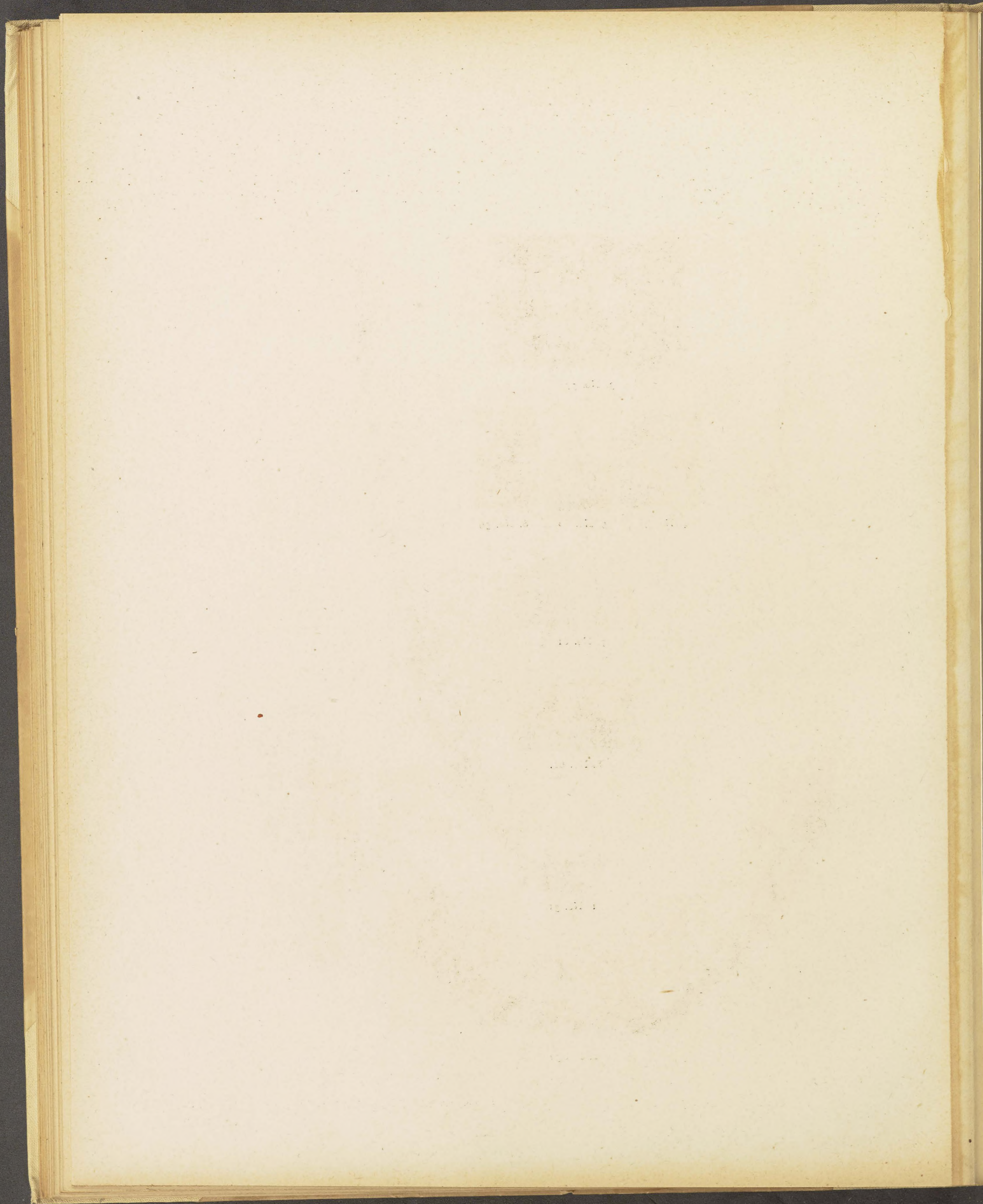








CHAINS AND EAR-RINGS.





1. No. 63



b



2. No. 64



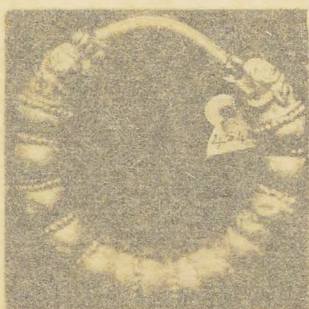
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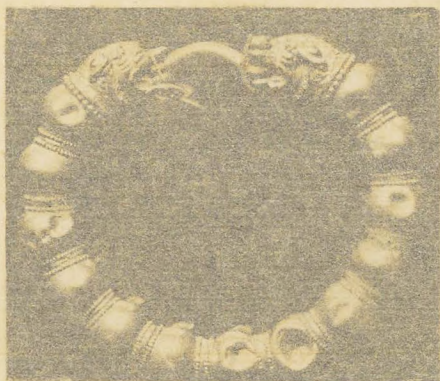
4. No. 66



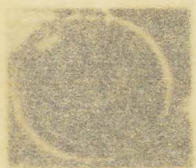
5. No. 67 a



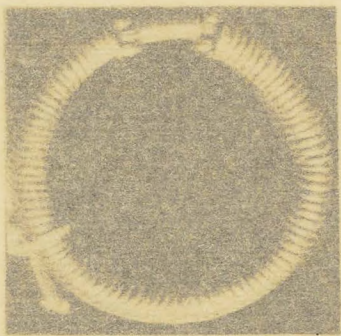
7. No. 68



6. No. 67 b



10. No. 71



a



b

8. No. 69



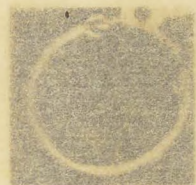
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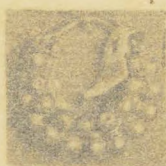
11. No. 72 a



16. No. 76



12. No. 73 b



a



a



b



b

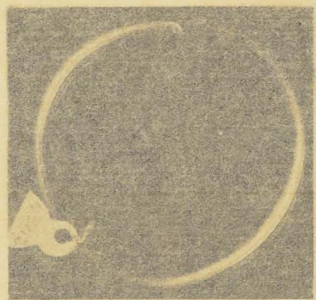
9. No. 70



17. No. 77



13. No. 73



a



b

20. No. 80



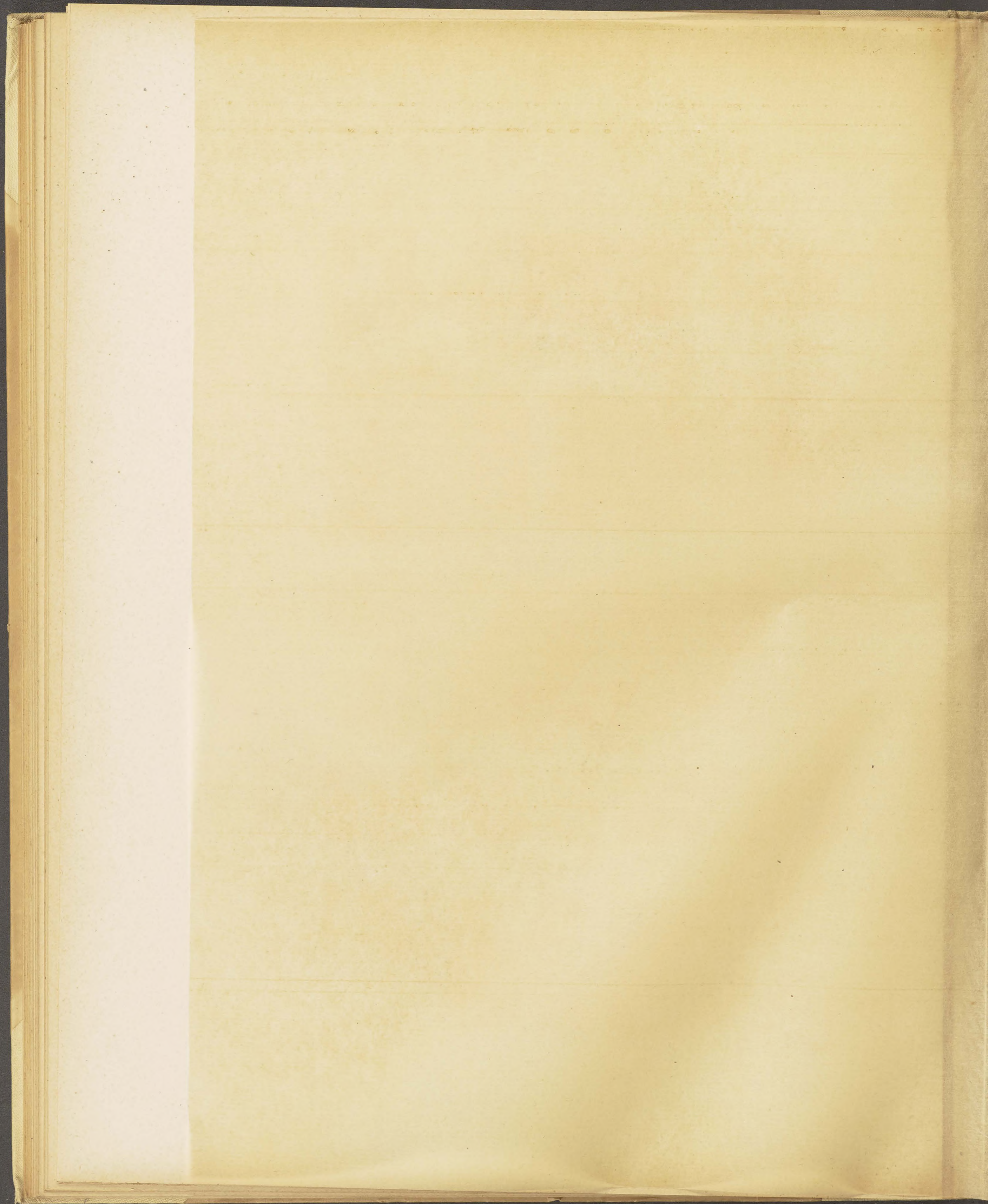
18. No. 78



14. No. 74

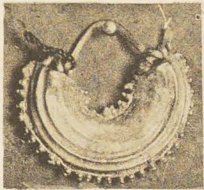


19. No. 79



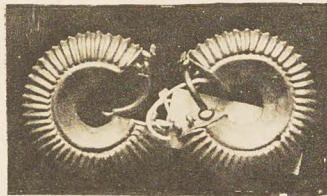


a



b

1. No. 63



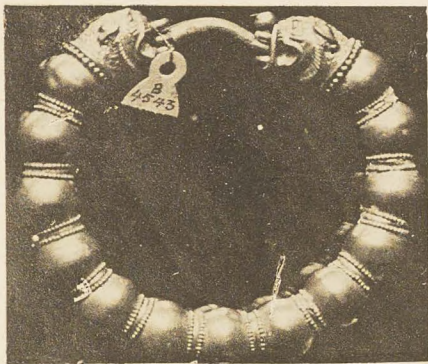
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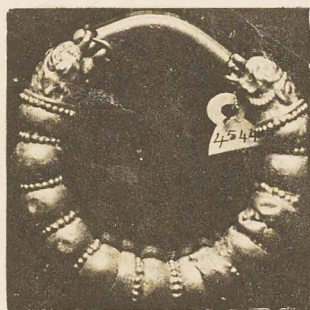
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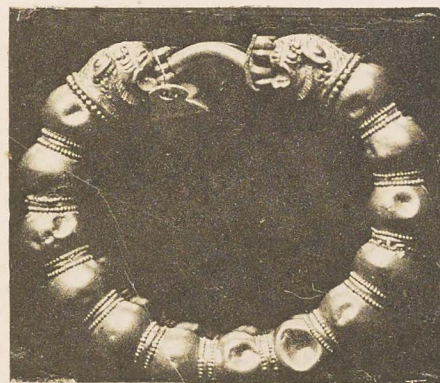
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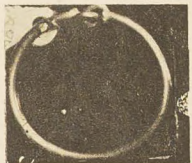
5. No. 67 *a*



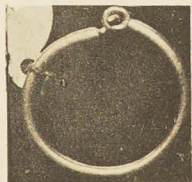
7. No. 68



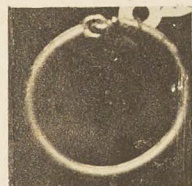
6. No. 67 *b*



10. No. 71



11. No. 72 *a*



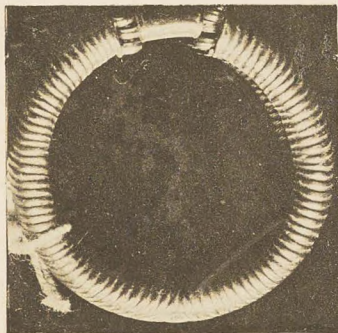
12. No. 72 *b*



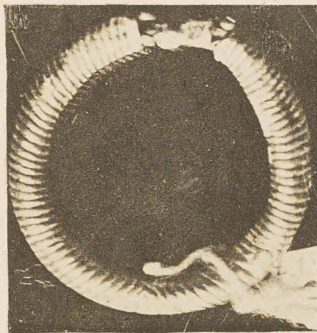
13. No. 73



14. No. 74



a



b

8. No. 69



15. No. 75



16. No. 76



a



a

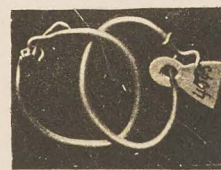


b



b

9. No. 70



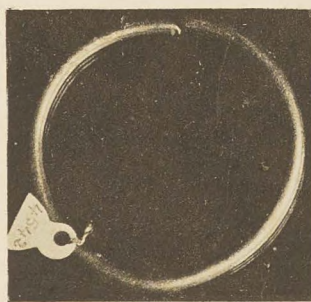
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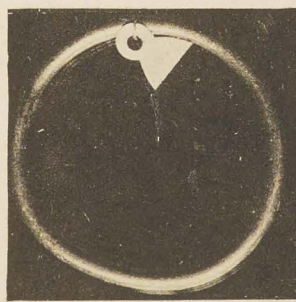
18. No. 78



19. No. 79

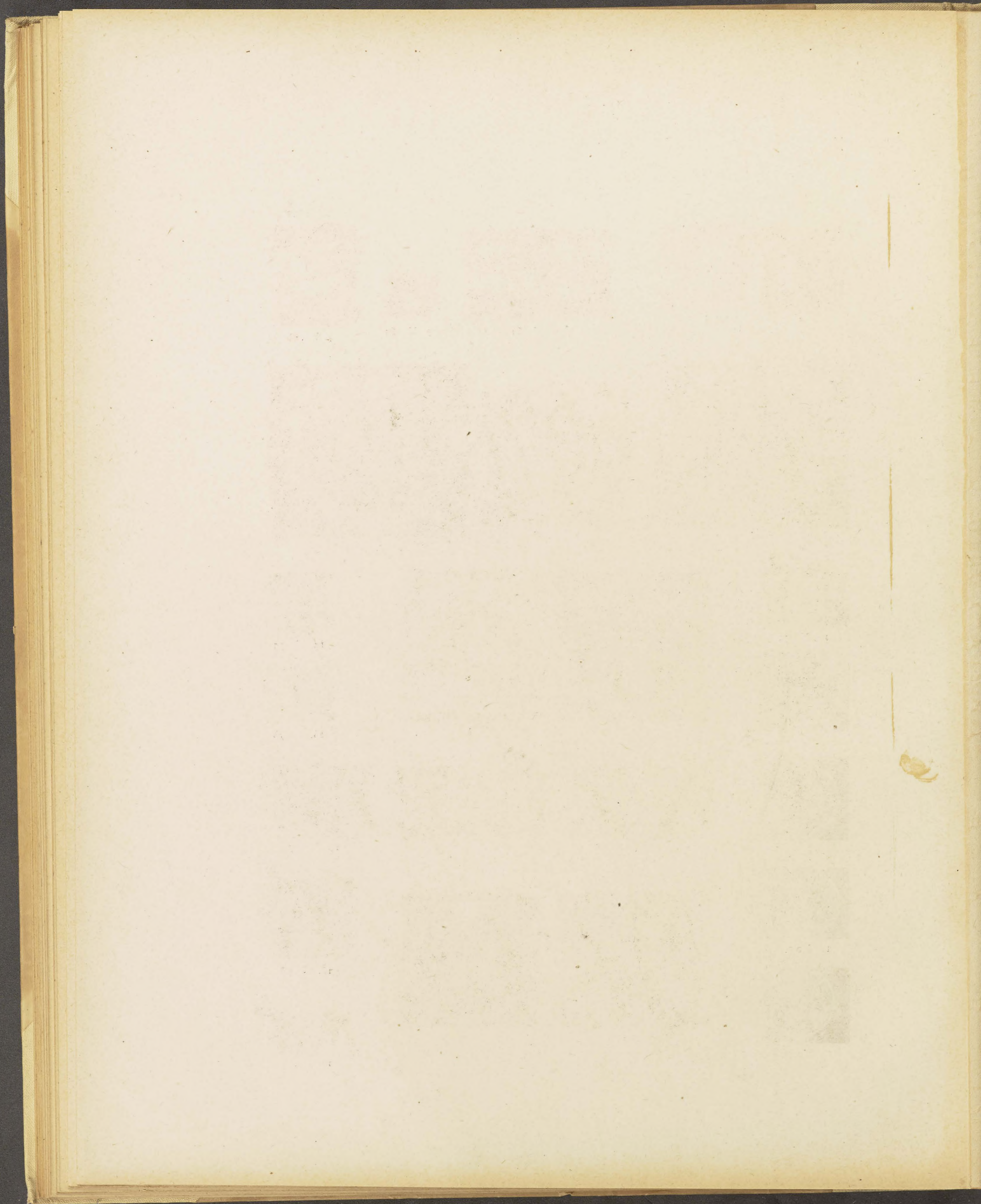


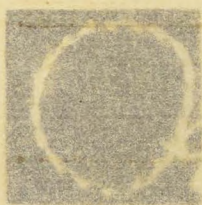
a



b

20. No. 80

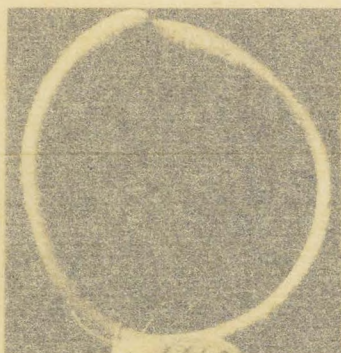




1. No. 81



2a. No. 82



3. No. 83



2b. No. 82



4. No. 84



5. No. 85



6. No. 85



a



b



c



d



e



f

7a-c. No. 86



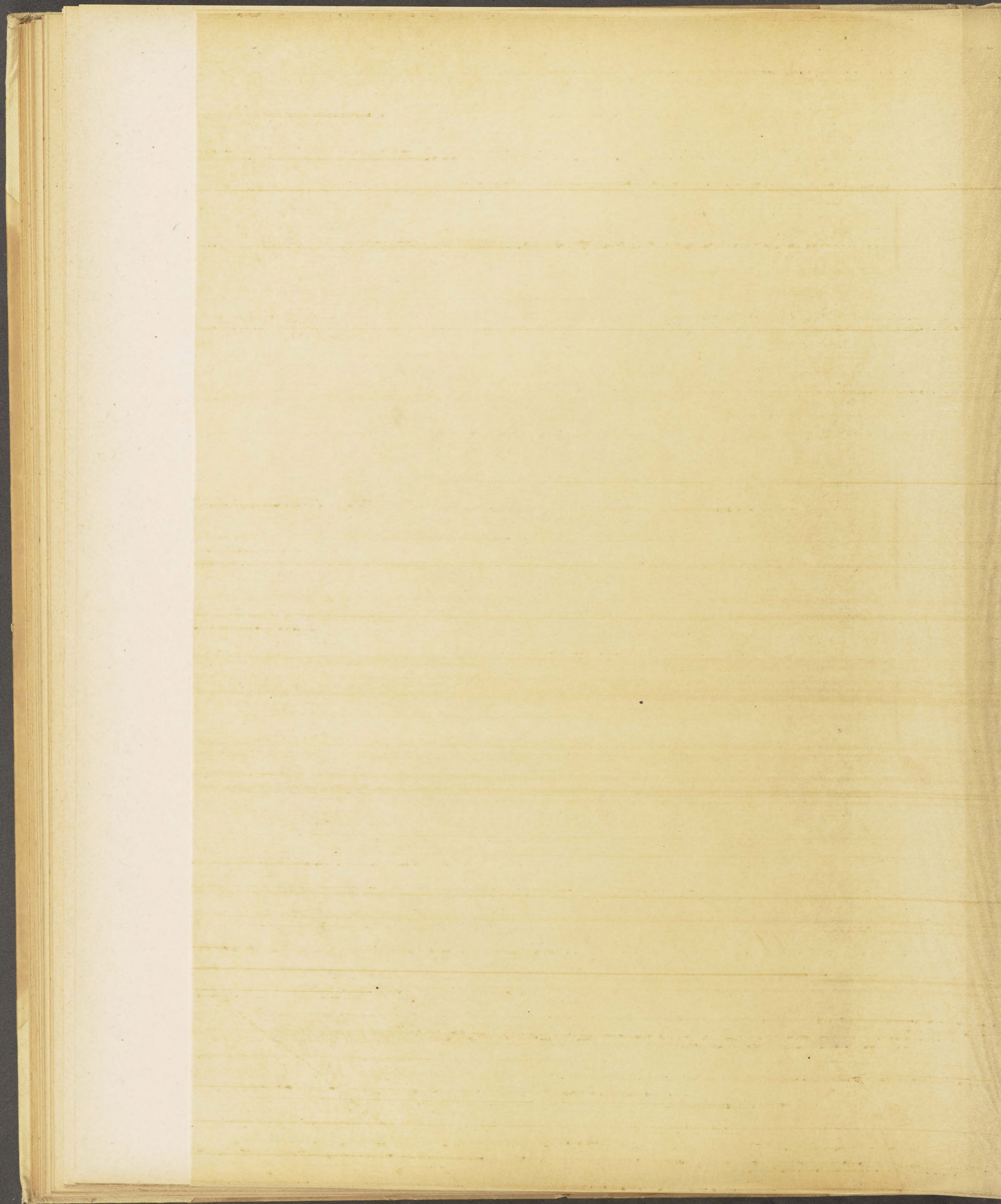
8. No. 87



9. No. 87 (10:7)

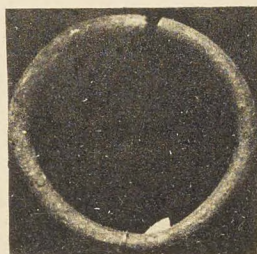


10. No. 87

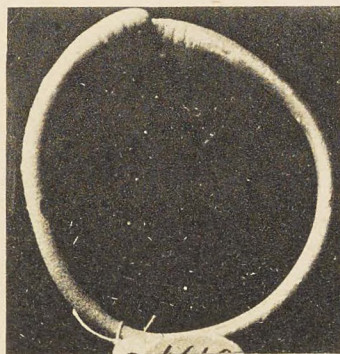




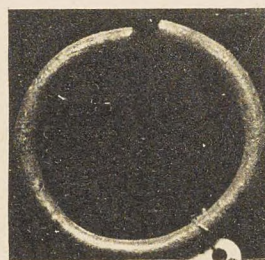
1. No. 81



2a. No. 82



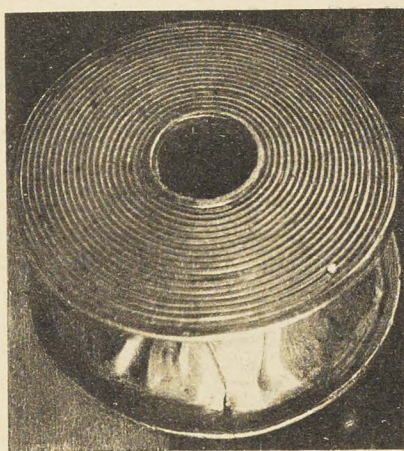
3. No. 83



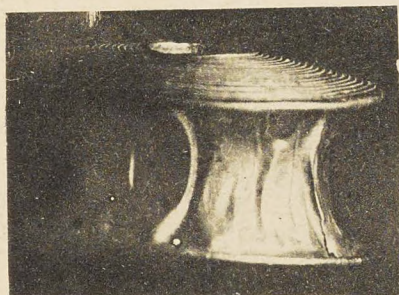
2b. No. 82



4. No. 84



5. No. 85



6. No. 85



a



b



c



b



c



c

7a-c. No. 86



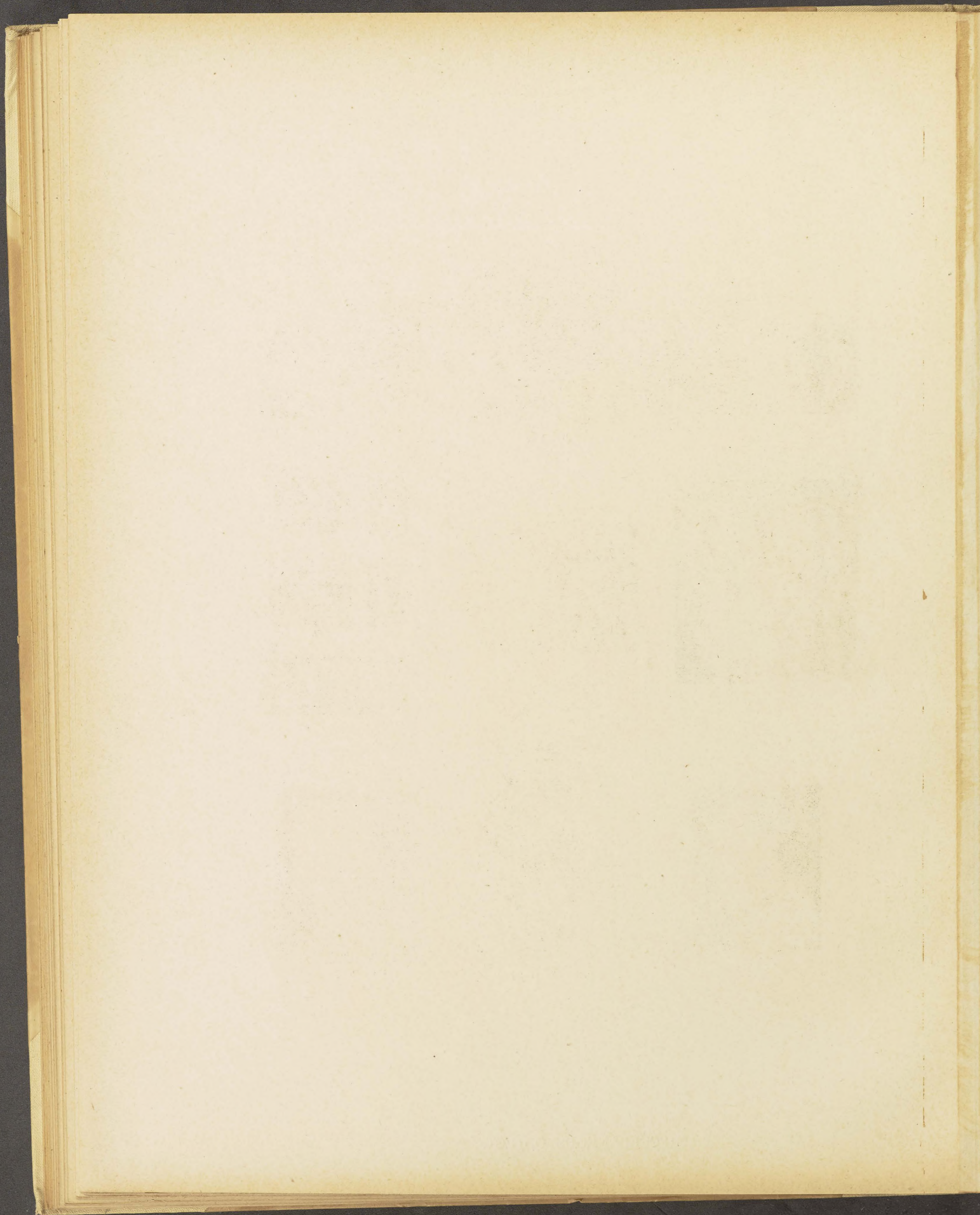
8. No. 87

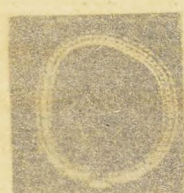


9. No. 87 (10:7)



10. No. 87





1. No. 85



2. No. 86



3. No. 87



4. No. 91



5. No. 93



6. No. 94



7. No. 95



8.



9. No. 97



10. No. 99



10. No. 102



Fig. 14. No. 103



11.



11. No. 105



12. No. 106 (9:7)



16. No. 107

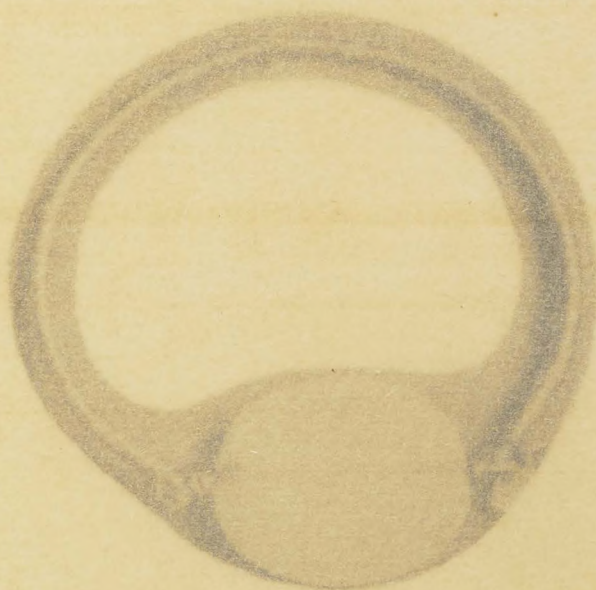
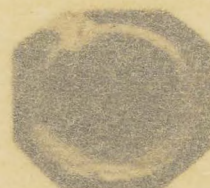


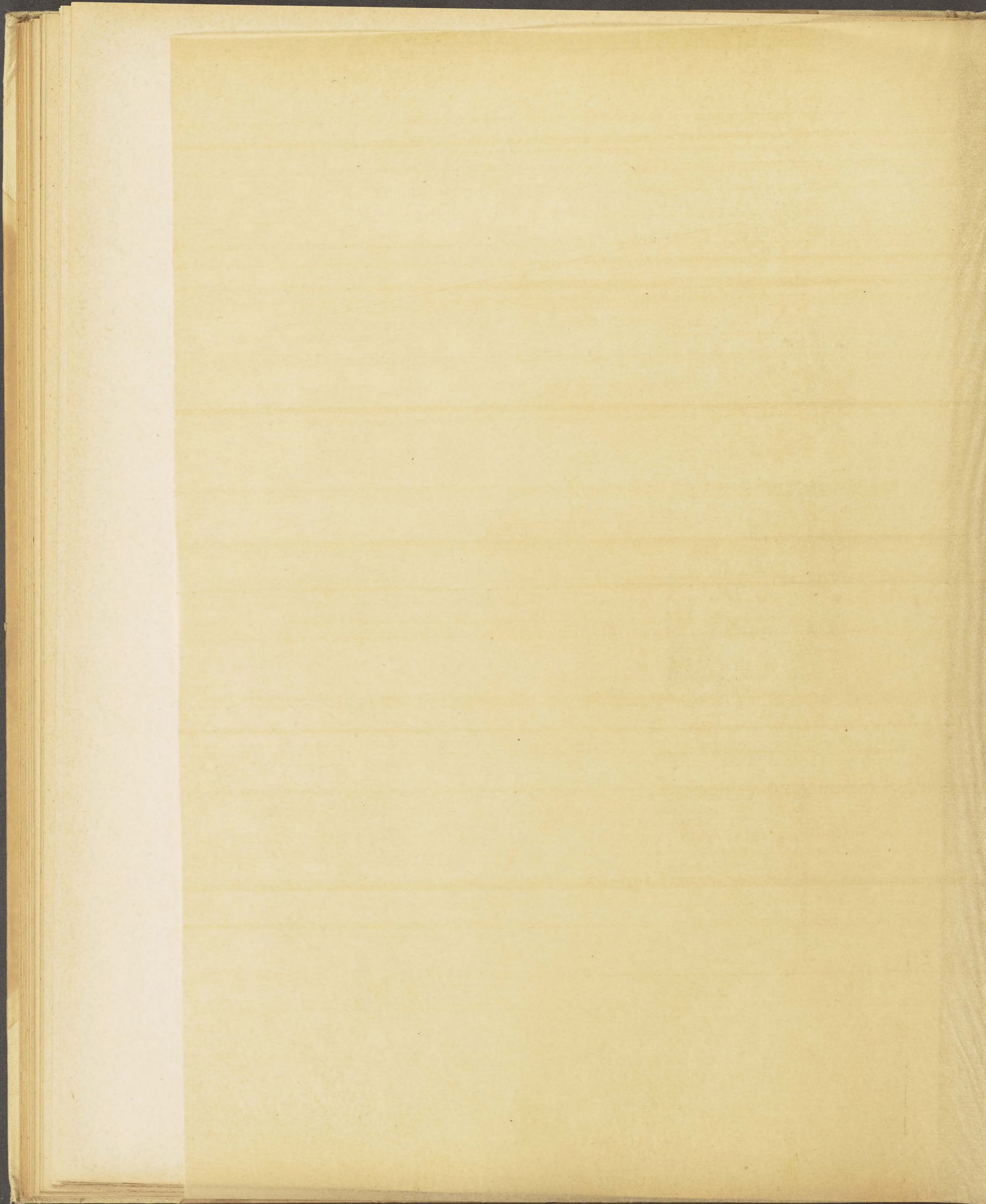
Fig. 15. No. 108



13. No. 109



17. No. 110





1. No. 88



2. No. 89



3. No. 90



4. No. 91



5. No. 92



6. No. 93



a



b

7. No. 94

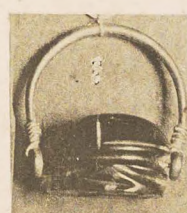


a



b

8. No. 95



a

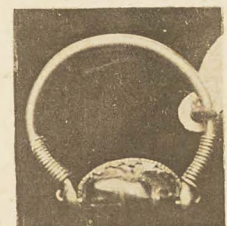


b

9. No. 96



a



b

10. No. 97

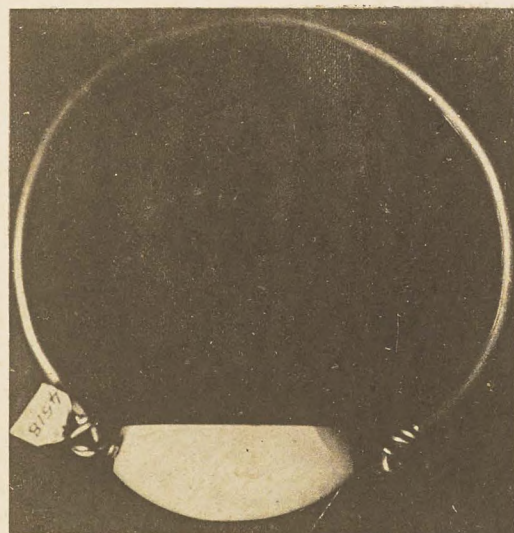
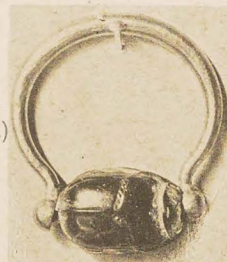


Fig. 14. No. 101



a
(4:3)



b

11. No. 98



12. No. 99 (9:7)



16 No. 102

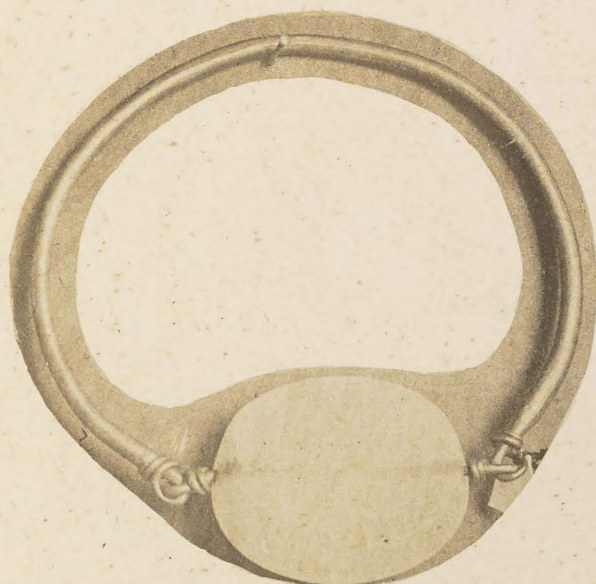
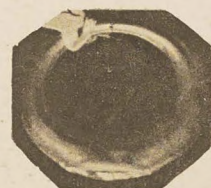


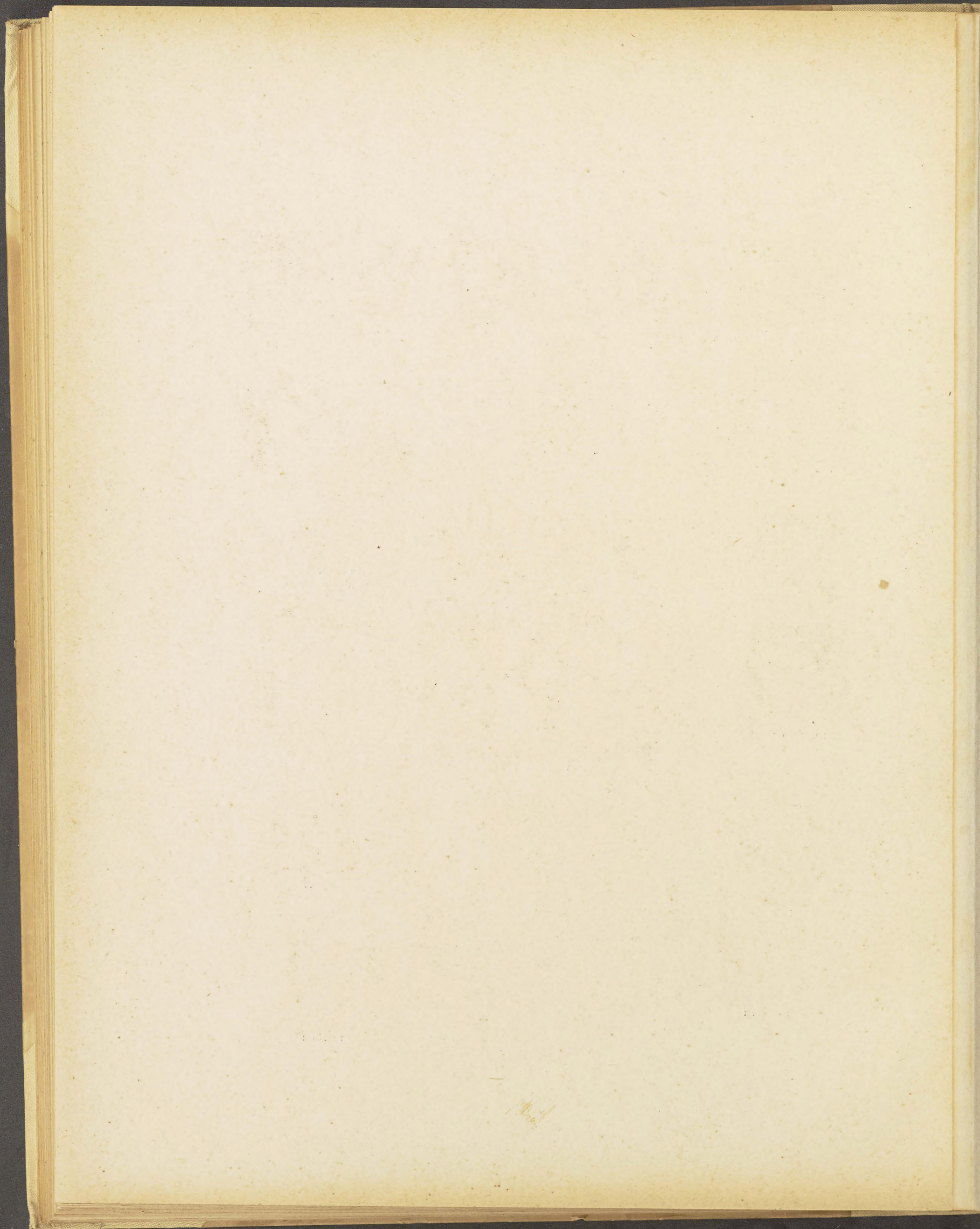
Fig. 15 No. 101



13 No. 100



17 No. 103





1. No. 104



2. No. 105



3. No. 106



4. No. 107



5. No. 108



6. No. 110



7. No. 109



8. No. 111



9. No. 112



10. No. 113



11. No. 114



12. No. 115



13. No. 116



14. No. 117



15. No. 118



16. No. 119



17. No. 120



18. No. 121



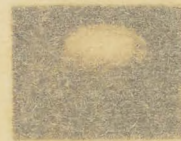
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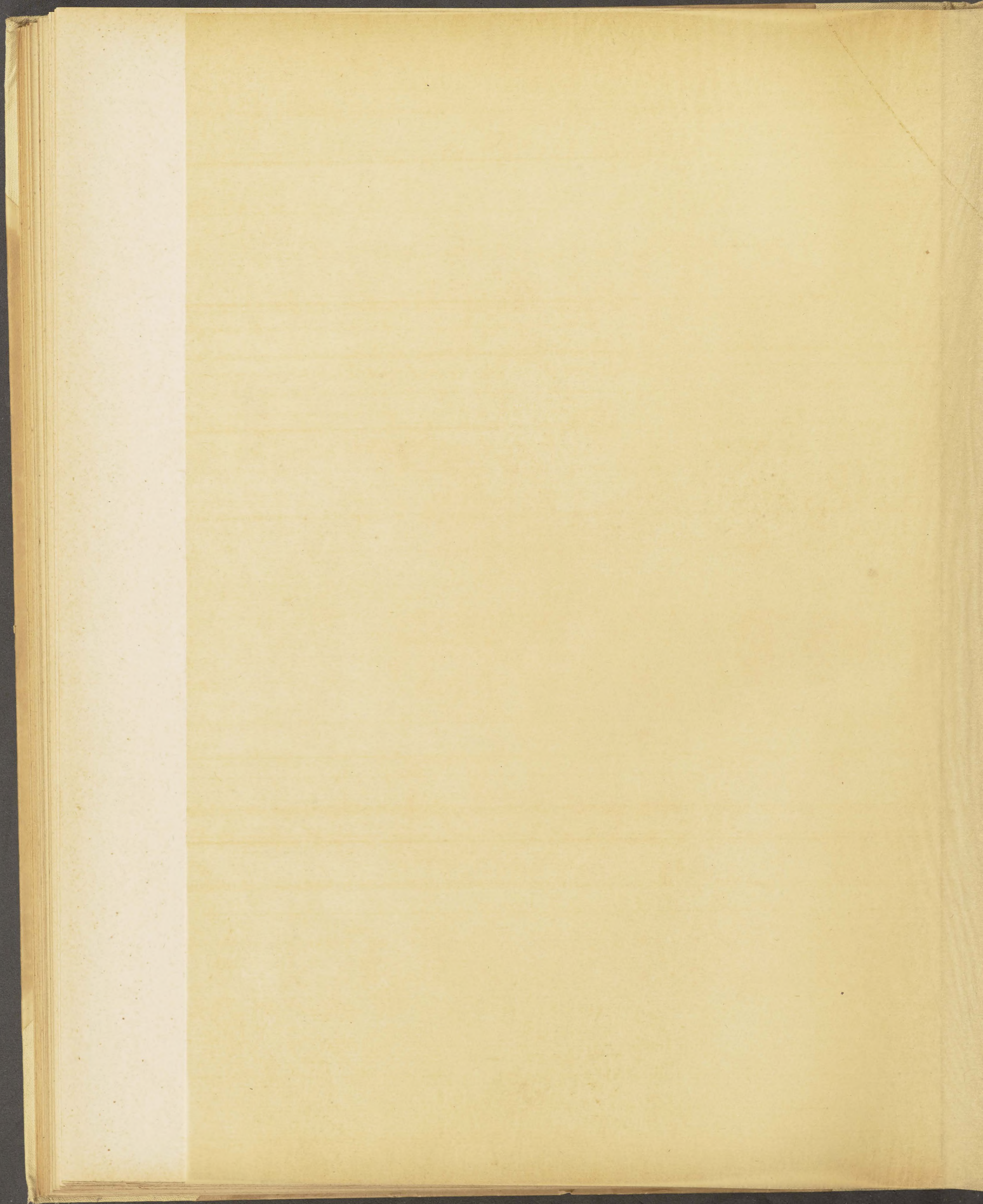
20. No. 123

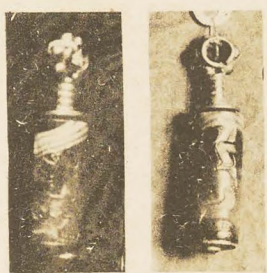


20. No. 123



20. No. 123





a
b
1. No. 104



2. No. 105



3. No. 106



4. No. 107



5. No. 108



6. No. 110



a (9:7)
7. No. 109



b



8. No. 111



9. No. 112



10. No. 113



11. No. 114



12. No. 115



13. No. 116



14. No. 117



15. No. 118



16. No. 119



17. No. 120



18. No. 121



a

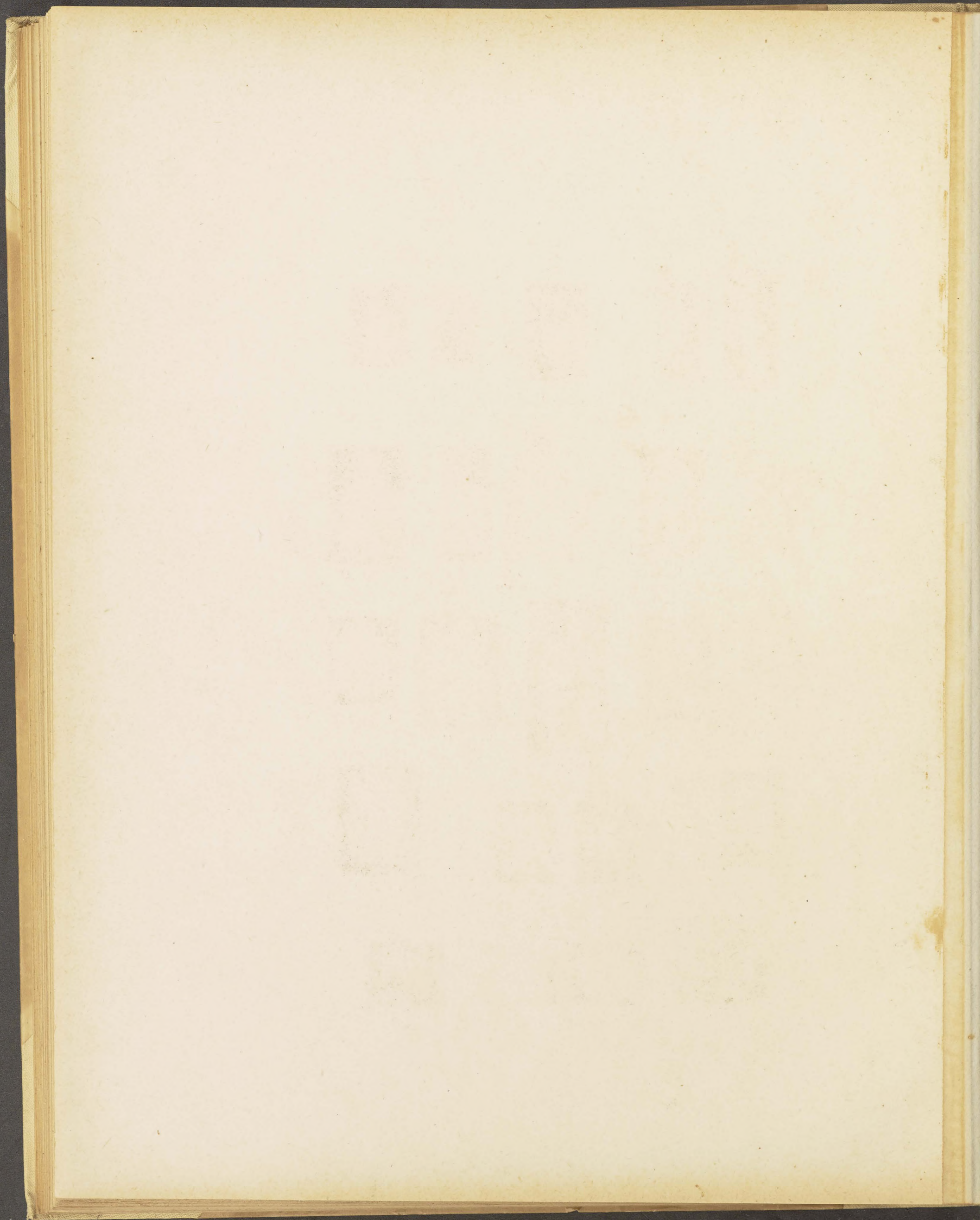


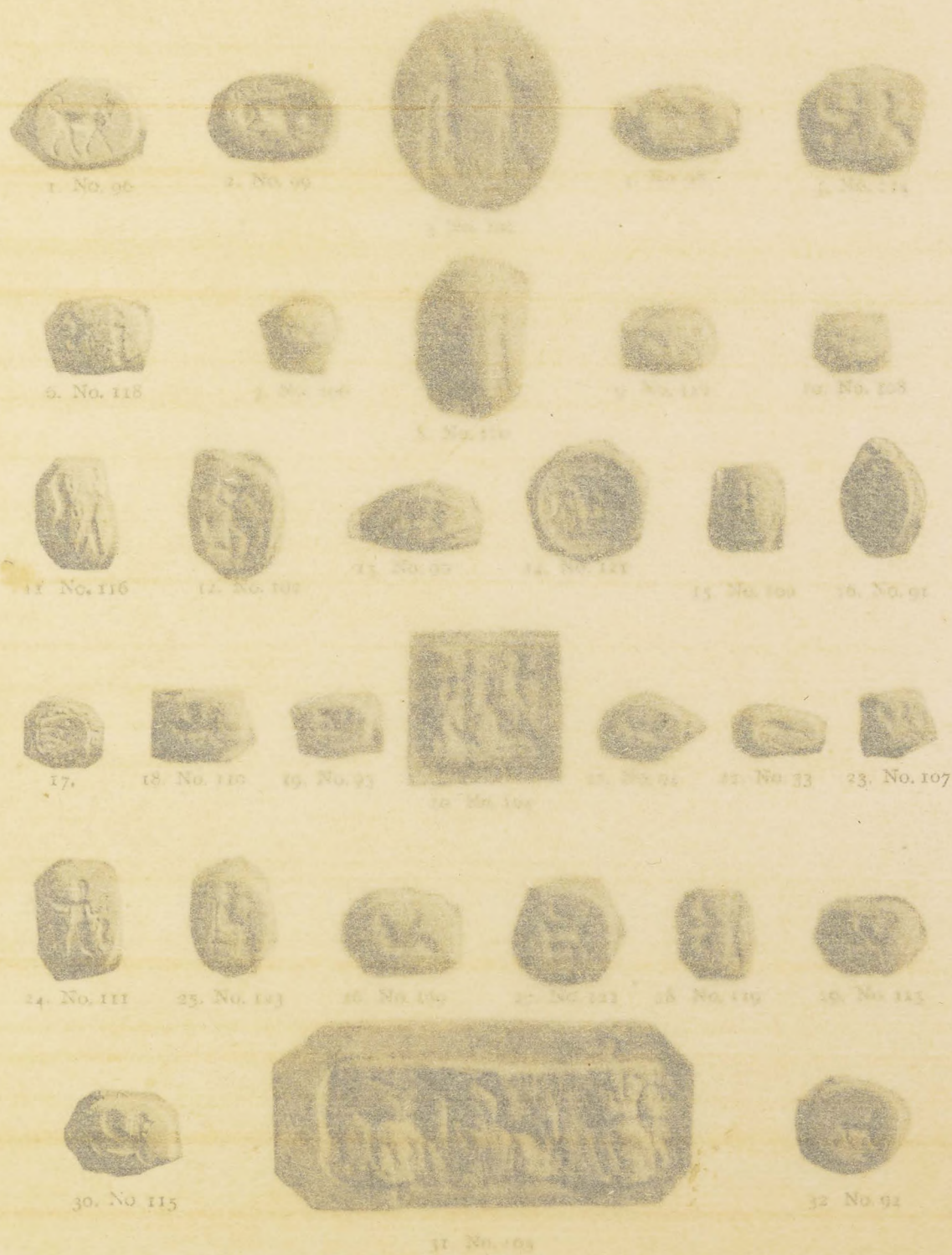
b

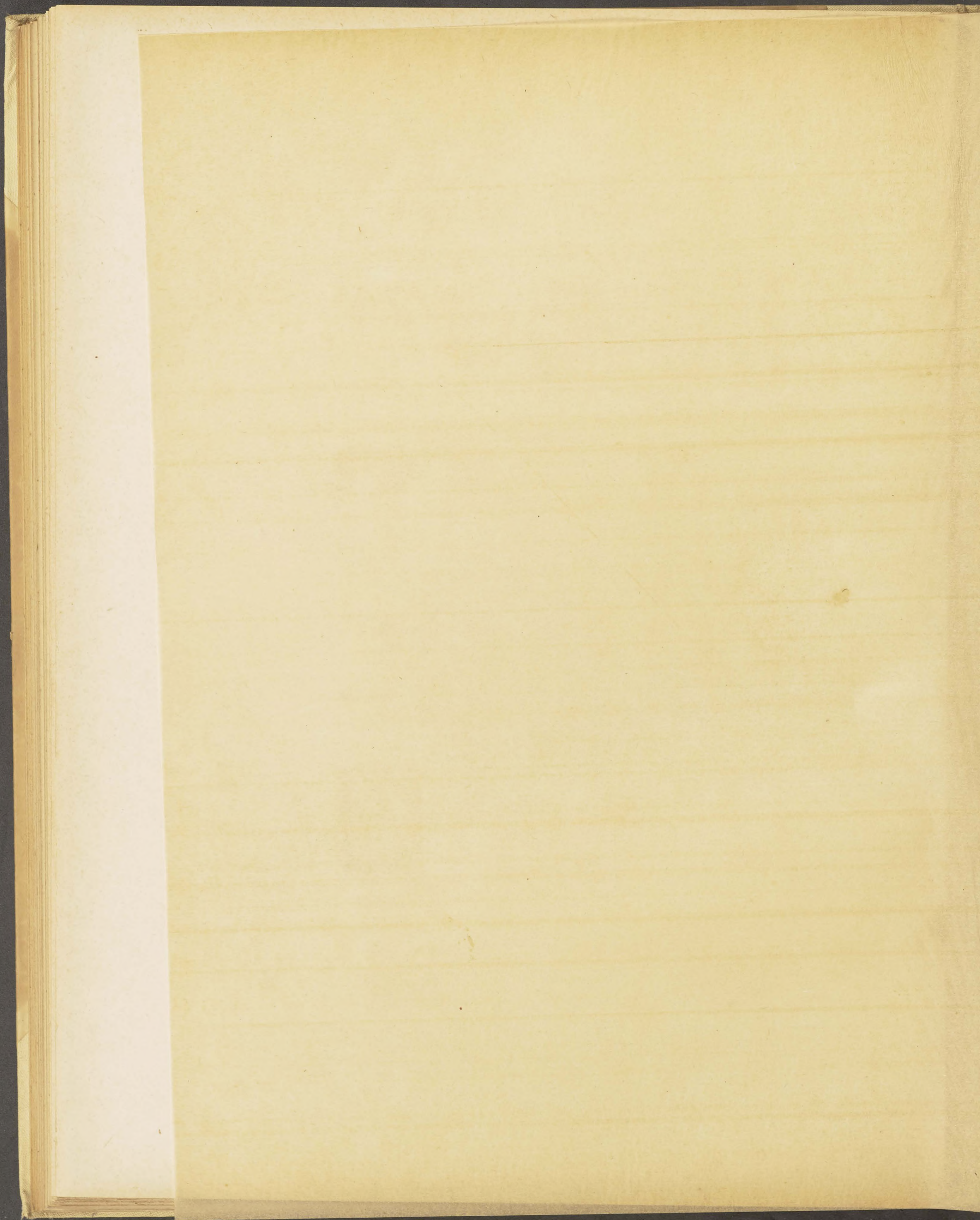
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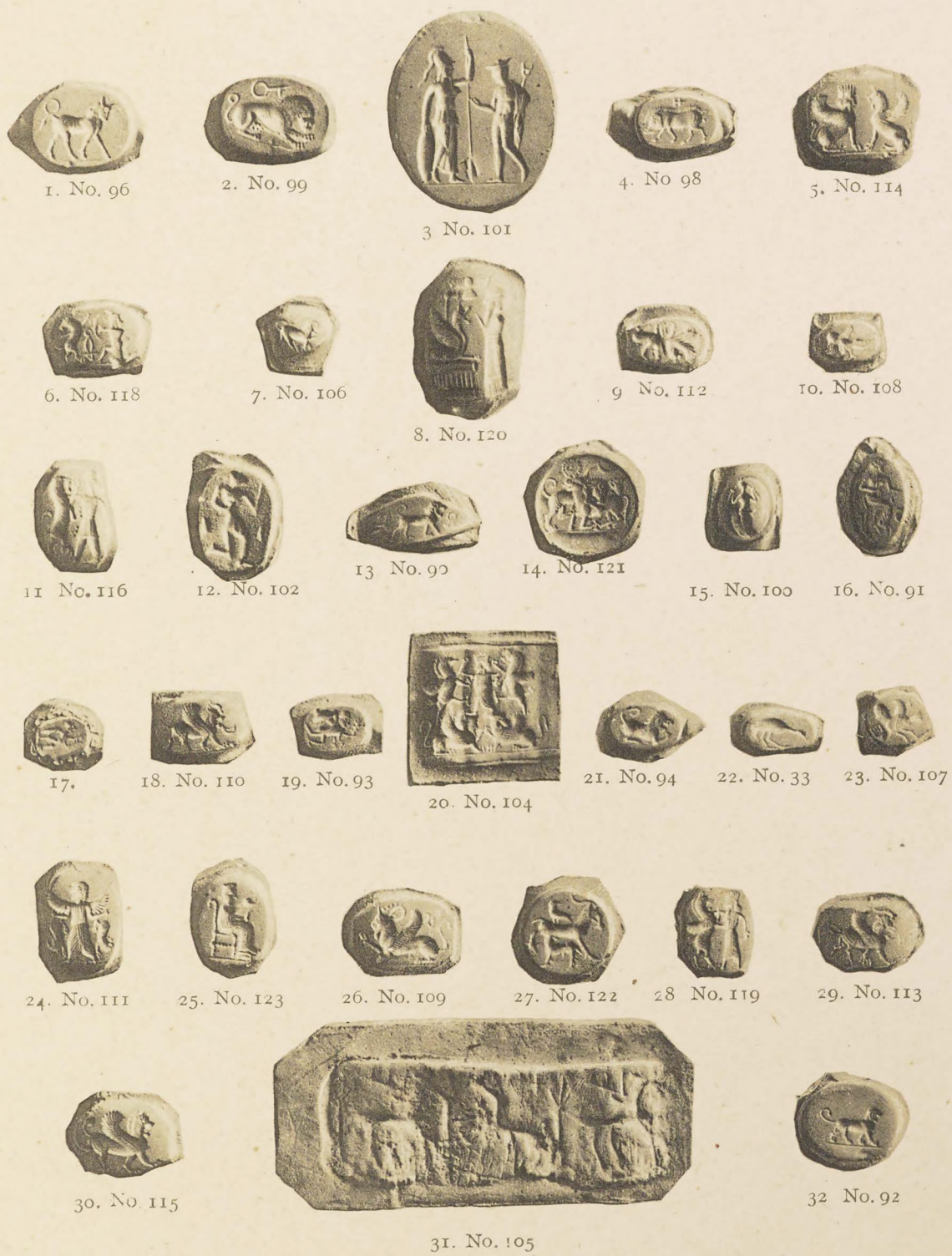


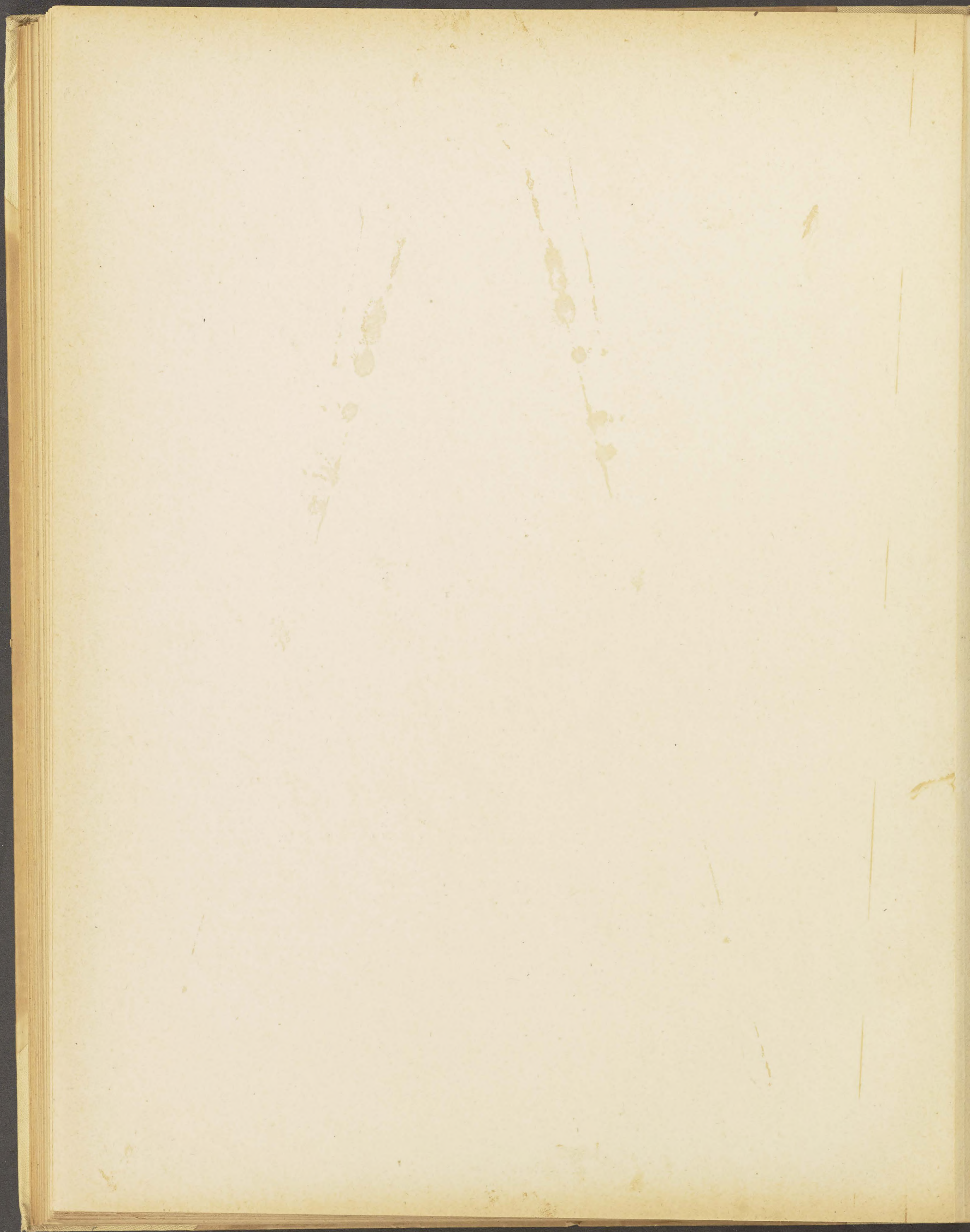
20. No. 123













WILLARD L. DE YOE
TIGHANSTRUAN
WEST SHORE ROAD
GREENWOOD LAKE
HEWITT R. D., N. J.



